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# AIR CONDITIONING & REFRIGERATION News

THE NEWSPAPER OF THE INDUSTRY

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## INSIDE DOPE

by GEORGE F. TAUBENECK

Beaumont, Texas Is CLEAN
Clean People
Clean Competition
Boxcars vs. Craps
Clean Fun and Clean Recreation
Growing Major Industries
Want a Bargain, Mr. Manufacturer?
Natural Resources Are Abundant
Fuel and Power In Abundance
Skip It Any Way You Like
Wanna Buy a Ranch?

### *Beaumont, Texas Is CLEAN*

Surely, Beaumont must be one of the two or three cleanest cities in the world—if not *the* cleanest.

This case-hardened reporter has visited nearly all of America's cities, and has seen the metropoli of Europe, the Near and Far East, Australia, and northern Africa. In his humble opinion, Beaumont rates the international championship blue ribbon for civic cleanliness.

In the first place, the air is clean. Situated on mirror-smooth land laved by gentle ocean breezes, the, outdoor air is good to breathe. So is the indoor air. Like many Texas cities, Beaumont is a citadel of air conditioning. Nearly all the substantial buildings are crowned with cooling towers.

Secondly, the city has doubled in population within the last decade (nearly 100,000 now, according to the 1950 census). That means that most of its commercial buildings are either new, or have been face-lifted to keep pace with their suddenly-risen neighbors. Likewise the homes. On every street, anywhere you look, spanking new homes and stores and factories and schools are being erected.

The suburban developments are amazingly fresh—and, of course, spotless. So is Lamar university, which is probably one of the most modern assemblies of college buildings you could find anywhere in the world.

Incidentally, Beaumont is blessed with fine young architects. The new homes (from modest to magnificent); the factories and warehouses; the schools and churches and stores and civic buildings; the streets and parks and playgrounds—all are integrated aesthetically, and are decidedly pleasing to the eye. Slums don't exist. Neither do grimy and gritty factory sections. Nowhere is there a jarring note. This is so remarkable that it makes Beaumont a rarity among the world's cities.

### *Clean People*

In the third place, the people are clean—in mind, body, and spirit. Super-sophisticated observers from other parts of the nation go so far as to grumble that Beaumonteers overdo their zealous devotion to the Good Life. Cocktail lounges and bars are non-existent. Nor can you find smelly poolrooms, shoddy movie houses, night clubs, or burlesque houses.

Instead, Beaumont citizens go for drive-in movies and outdoor sports in a big way. The drive-in restaurants are conspicuous and plentiful, too. As an original feature, the latter have long canopies under which park-and-eat motorists can seek refuge from the glittering sun nine months out of the year, and from the rains which characterize the short winter."

Churchgoing and civic betterment activities are far more important to most Beaumonteers than the earthy pleasures to which inhabitants of other cities devote themselves so unstintingly.

Example: at an Exchange Club luncheon which "Dope" attended, the members planned a weekend fishing excursion to an out-of-the-way camp accessible only by boat. It was announced that transportation to and from this distant camp would be provided on the Sabbath so that members could attend Sunday School and church services! That was taken as a matter of course by the Beaumont fishermen; but, readers in other cities surely will agree, it's unusual.

(Concluded on Page 17, Column 1)

# 'How' of Freezer Tax Law Still Not Clarified

WASHINGTON, D. C. — Although the new excise tax on home freezers went into effect Nov. 1 the industry was still in the dark on many vital interpretations needed for proper application of the tax, and some industry observers said that "the Bureau of Internal Revenue is apparently as much up in the air on these interpretations as the industry is."

Here are the problems:

*1. Definition of a "home freezer."*

The Bureau has said that the determination of whether a freezer is of the "household" type must be by the factor of "design," rather than end use. It has been pretty well agreed that walk-in models, glass-top models, and open low-temperature cabinets will be exempt from the tax. But "temporary top" models and even ice cream cabinets are still in doubt.

*2. Taxation of components.*

The new excise tax law also imposes a tax on certain components that *may* be used in the manufacture of home freezers. Included are compressors, condensing units, condensers, controls, and evaporators.

(Concluded on Page 4, Column 5)

# Kelvinator Shows Tax Separately on Prices

DETROIT—Nash-Kelvinator Corp. released new suggested retail prices, effective Nov. 1, on Kelvinator and Leonard home freezers and electric water heaters.

Water heater prices have been increased from $5 to $10 as a result of manufacturing cost increases in recent months, according to the company.

C. T. Lawson, vice president in charge of sales, said that in establishing the new freezer prices the company has departed from the customary procedure used on other major appliances by showing the amount of the Federal excise tax as a separate item.

"This procedure enables the customer to know exactly the amount of Federal excise tax being paid by the manufacturer on these products," Lawson said. "Handling the tax in this manner also enables the company to establish better merchandising prices on these products."

Lawson pointed out that freezer prices have been increased sufficiently to maintain competitive dealer mar-

(Concluded on Page 4, Column 5)

# W. Coast Conference Program Offers 10 Talks for Servicemen, Contractors

LONG BEACH, Calif.—Educational displays by 65 firms will be set up in the Municipal Auditorium from Nov. 17 through 19 for the 1950 West Coast Refrigeration and Air Conditioning Educational Exhibit and Conference.

The exhibit and conference, which will include 10 talks by industry authorities on subjects of interest to servicemen and contractors, is expected to be the largest and most successful every held, according to F. G. Coggin, chairman of the educational committee of the Refrigeration Equipment Manufacturers Association.

The affair is being sponsored by Rema and the Refrigeration Service Engineers Society. The Refrigeration Equipment Wholesalers Association and the Refrigeration and Air Conditioning Contractors Association are cooperating.

RACCA will hold its fifth annual convention in the Hotel Lafayette on Nov. 15 and 16, just prior to the opening of the exhibition. At press time the program for this convention was not available for publication.

RSES will stage its 13th annual convention concurrently with the conference, but starting on Nov. 16.

Rewa is sponsoring a contest for servicemen and contractors to determine the best exhibit in the show. Entrants must tell, in 25 words or less, why they think a certain booth

(Concluded on Page 21, Column 1)

# Brunner Adds Models, Expands Utica Plant

UTICA, N. Y.—Announcement of the expansion of plant facilities at Utica and also at Newark, N. J., and the extension of its condensing unit line from 44 to 60 models, made the big news at the recent three-day conference of Brunner Mfg. Co. factory executives and field sales force.

Brunner's sales thus far in 1950 have doubled those in 1949, it was reported by A. G. Zumbrun, president, and thus even though Brunner had greatly expanded its production capacity since the end of the war, more expansion is necessary. Brunner's president also said that by the end of the year the Brunner engineering staff and the research and testing laboratories will all be housed in a new building.

"Six plants, four of which were added within the last five years, are not enough to care for the growing demand for Brunner products," Zumbrun declared. "Therefore, contracts have been let for Plant No. 7 to be constructed on property presently owned by the company. When completed and equipped, at a cost expected to reach nearly a half million dollars, these additional facilities will enable the combined plants to increase production at least 25% to 35%.

"Sales curves have continued upward to a point where at the end of this last quarter, sales were doubled over 1949 and will more than triple those of five years back by the end of 1950. Though presently we are not able to gain on back-logged business, owing to materials procurement problems, the company will continue to maintain satisfactory delivery schedules.

(Concluded on Back Page, Column 2)

# Bureau To Help Small Firms Get Defense Contracts

WASHINGTON, D. C. — The Department of Commerce has announced additional services for helping business firms—particularly the smaller ones—obtain defense contracts.

By using these and other services, the department said, businessmen can find out what the government is buying without outside assistance. There's no need for them to go for the "sucker-bait" dangled by "five percenters," it was emphasized.

As a service to its readers who wish to do business with the government, the NEWS publishes in each issue lists of pending government purchases which are of interest to the industry. This data is carefully compiled from advance information on contracts as collected by the Department of Commerce.

Each issue of the NEWS also carries pertinent extracts from the contract-award lists issued by the Commerce Department. Manufacturers, contractors, and others who have an interest in such information will find these lists of great assistance. This week's lists are on page 21.

One of the new services will be performed by the Office of Small Business recently created in the Commerce Department's National Production Authority. This office was set up "to insure maximum participation of smaller business concerns in the defense effort."

In another move, the Commerce Department instructed its 42 field offices to provide additional local guidance to businessmen on programs of the NPA as well as other department programs.

The department also revealed that an "inventory" of small manufacturing firms will be made by the NPA to find out how they can help in defense production. Secretary of Commerce Sawyer said the NPA will attempt to avoid the "mistake" made during World War II of not giving small companies an adequate share of defense contracts.

All this activity should not make businessmen think that the government is going to hand them contracts "on a silken pillow," Sawyer warned, adding:

"Businessmen must go after government business as they go after any other business."

In creating the Office of Small Business, NPA Administrator William H. Harrison announced that it will be supervised by Edward H. Lane. Lane, president of The Lane Co., a furniture manufacturing firm in Altavista, Va., was given the title

(Concluded on Back Page, Column 1)

## *'We Expected Controls on Home Appliance Selling—But Nothing So Drastic.'*

Silkworth Distributing Co.
1659 N. Saginaw St.
Flint 4, Mich.

Editor:

We feel we more or less know you having been a subscriber to your paper for the number of years we have.

The dealers as well as the distributors of electrical appliances certainly need all the help that we can secure in getting these new credit restrictions lifted.

Our dealers feel the same as the telegram on your Oct. 23 issue states—that it is an injustice in every way. Reasonable controls are to be expected but nothing as drastic as this, and we are glad you are going to bat in our behalf and hope you continue.

Enclosed is copy we have sent out to our dealers, to help them use their influence in the right direction.

W. W. SILKWORTH

**Recommended Dealer Action**

Regarding the recent new 25% down payment ruling,—this is a suggestion.

The name of the Chairman of the Federal Reserve Board, Washington, D. C., is Mr. Thomas B. McCabe, who has the regulation

(Concluded on Back Page, Col. 1)

# Metals Order May Signal Cut In Appliances

WASHINGTON, D. C.—A National Production Authority directive expected momentarily may cut civilian use of copper, aluminum, and nickel by an estimated 15% to 30%.

The order will strike the first major blow at the current high rates of production of major appliances and refrigeration equipment.

Manufacturers of such products were warned in a meeting with NPA officials of what was to come. Following the meeting, H. L. Andrews, vice president of General Electric Co., declared that G-E would lower production on its appliance lines on the day the non-ferrous metals order is issued.

"Production of major appliances at General Electric," he said, "will be cut back in the exact amount our use of nickel, copper, and aluminum is cut back."

John B. Huarisa, executive vice president of Admiral Corp., said the outlook for next year is "not clear" but "it is logical to assume that production will be off 25 to 30%, if not more" on refrigerators and TV sets.

The commercial refrigeration and air conditioning industry will be affected by an NPA ban on construction of new buildings for amusement, recreational, or entertainment purposes. This ban took effect Oct. 27.

NPA Administrator William H. Harrison pointed out that the order does not affect construction already underway, and permits repair and maintenance of existing buildings as well as a limited amount of alteration and modernization. The directive exempts small construction jobs not exceeding $5,000 cost for any consecutive 12 months period.

How restrictions on the three metals—copper, aluminum, and nickel—will be applied was still being debated by government officials. They were trying to decide whether to apply them to makers of civilian end-products themselves, or just to manufacturers of the "components" that go into the finished items.

(Concluded on Back Page, Column 2)

## Universal Cooler Sold to Tecumseh

**CLEVELAND — Newport Steel Corp. has sold its Universal Cooler Div. at Marion, Ohio, to Tecumseh Products Co. of Tecumseh, Mich., for an undisclosed price, it was announced last week.**

**The sale was negotiated by William J. Mericka, president of the Cleveland investment firm bearing his name. Mericka last Aug. 31 bought a substantial interest in the $25,000,000 Newport Steel Co. for a group of investors.**

**No announcement has been made by Tecumseh as yet regarding its plans for the newly acquired plant.**

# Valve Mfr. Asks 'DO' Nos. from Customers On Gov't Contracts

DETROIT—Detroit Lubricator Co. has asked all refrigeration wholesalers buying its valves and controls for the armed forces and government agencies to request DO (defense order) numbers on their purchases.

These numbers should then be passed on to Detroit Lubricator so that its stocks can be replenished, F. G. Coggin, manager of the company's refrigeration division, explained in an open letter to the wholesalers.

Coggin's letter follows:

"The refrigeration industry, during the last war, had an up-hill job in establishing itself as an essential industry from the standpoint of material procurement, manpower, etc.

"Eventually, however, through the efforts of individual companies and several refrigeration associations, combined with the government's own experience in attempting refrigeration by other than mechanical means, we were at last accorded recognition.

"With this previous experience all too fresh in our minds, we here at

(Concluded on Back Page, Column 5)

LAWRENCE A. POOLE
Chicago Zone

GEORGE B. WILSON
Mid-Atlantic Zone

JOHN S. GLOVER
Southeastern Zone

## Sherer-Gillett Expands Field Sales Organization

MARSHALL, Mich.—L. O. Bower, vice president in charge of sales, has announced three additions to the field sales organization of Sherer-Gillett Co.

Lawrence A. Poole, Lake Forest, Ill., has been appointed Chicago zone sales manager; John S. Glover, Montrose, Ala., has been named southeastern zone sales manager; and George B. Wilson, Baltimore, Md., has been named mid-Atlantic zone sales manager.

All three are widely experienced in the refrigeration field. Poole was associated for a number of years with Deepfreeze Div. of Motor Products Corp. and Whiting Corp.

Glover for more than 12 years has owned dealerships in commercial refrigeration. Wilson operates his own manufacturer's agency.

These appointments have been made, said Bower, "in order to give Sherer distributors and dealers more direct personal contact with the factory and are part of a continuing program leading to the development of a more closely integrated dealership organization."

## New Calif. Firm Formed To Serve Coast Dealers

LOS ANGELES — Formation of Nat Nigberg Industries, a new sales organization designed to service West Coast dealers with a multiple line of major home appliances, has been announced by Nat Nigberg, president.

According to Nigberg, his organization has been appointed as the exclusive West Coast sales agency for products made by Dortch Stove Works, Herron Stove & Foundry Co., Barton Washers, Pathe Television, and Ultra-Cold Refrigerators, Inc.

## Frozen Food Outlook Seen as Good If Right Varieties Are Marketed

NEW YORK CITY—If the right kinds of foods are chosen for marketing, the frozen food industry will continue to expand, in the opinion of Charles G. Mortimer, Jr., vice president in charge of General Foods' Birds Eye-Snider Div.

Speaking before members of the Sales Executive Club of New York, Mortimer stressed that all foods cannot be marketed in the frozen state.

"Producers must be extremely cautious to select only the raw foods which meet four basic requirements," he warned. He said these requirements are:

1. Freezing must contribute to the quality of whatever raw food is selected.
2. The finished product must save labor and time of preparation in the home.
3. It must sell competitively with the fresh product, even with the added cost of storage, and still yield a fair mark-up.
4. Most important of all, the margin of profit in the item must be sufficient to pay for promotion and education and still leave an adequate profit.

Mortimer presented these statistics on the industry: At present, there are 1,043 active frozen food packers in the country, producing 1,200 brands of 200 varieties of frozen foods. A total of 200,000 groceries are selling frozen foods, including about 75% of all chains. The industry now employs nearly 150,000 persons.

The investment of American families in home freezers totals around $500,000,000, he estimated.

Martin Mathews, vice president of Snow Crop Marketers, told the salesmen that the industry's inventories are sound. Noting that new products are continuing to be introduced, he cited a current national test of frozen tomato juice concentrate.

Producing and distributing functions of the industry were reviewed by John Fox, president of Minute Maid Corp., and William M. Walsh, chairman of the board of National Frozen Food Distributors, Inc.

## *Banker Sees Reactions To Govt. Tinkering With Economy*

DES MOINES, Iowa — Consumer instalment and real estate credit regulations imposed by the Federal government are tinkering with our business machine and may produce reactions in unlooked-for places, Kenneth R. Wells, vice president of the American National Bank and Trust Co. of Chicago declared here recently.

Speaking before the annual convention of the Iowa Bankers Association, Wells added, "Up to the present there is no evidence to prove that there exists anywhere in this country such an accurate knowledge of our economy and what makes it tick to give any one person or group of persons the ability to regulate that economy by artificially speeding it up and then slowing it down."

Wells declared, "It was the FHA, the Veterans Administration, the Farm Security Administration, and the Electric Home and Farm Authority which extended terms on real estate, on appliances, and other items far beyond what prudent lenders considered sound.

"It would appear that it would have been possible to amend the regulations of the various agencies themselves rather than to force a new regulation on all lenders in order to curb government agencies."

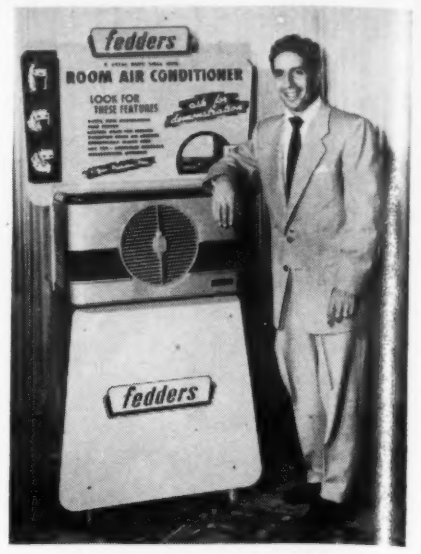
## Haas Heads Advertising, Sales Prom. for Mitchell

CHICAGO — Mitchell Mfg. Co., manufacturer of room air conditioners and other products, has announced the appointment of Howard G. Haas as advertising and sales promotion manager.

Haas was formerly assistant advertising manager for Mitchell and prior to that he was director of newsstand promotion and public relations for *Coronet* magazine. He also served as promotion manager for *Esquire* magazine.

## Kalamazoo 9-Mo. Net at $111,470

KALAMAZOO, Mich.—Kalamazoo Stove & Furnace Co. and subsidiary have reported a net profit of $111,470, equal to 37 cents a share, for the last nine months. This compares with an adjusted net loss of $506,797 a year ago.




Phil Rizzuto, Yankee shortstop.

* * *

## *Phil Rizzuto Sleeps Cool And Enjoys 'Hot Season'*

NEWARK, N. J.—More than sleeping in an air conditioned room was required to make Phil Rizzuto the most valuable baseball player in the American League, admits William T. Hunt, general manager of the appliance division of Igoe Bros., Inc., Fedders distributor here, but it seems to help.

Hunt pointed out that the ace shortstop for the world champion New York Yankee, purchased a Fedders window unit for his home at nearby Hillside, N. J., early last summer.

What Rizzuto could do to the opposition after a good night's rest in his air conditioned bedroom will be attested by any loyal Yankee fan.

## Tulsa Considers Adopting Refrigeration Ordinance

TULSA, Okla.—An extensive code regulating refrigeration and air conditioning systems and broadening the powers of the boiler inspection division to enforce them has been drafted by city officials here.

The proposed code will be modeled on that of the American Society of Refrigerating Engineers. Heretofore, Tulsa has had no power to regulate the installation of refrigeration and air conditioning units.

The code is planned to include home refrigeration and air conditioning units but is directed particularly at commercial systems. It would also change the boiler inspection department to the pressure vessel and refrigeration inspection department.

It has full support of nearly all Tulsa refrigeration and air conditioning firms.

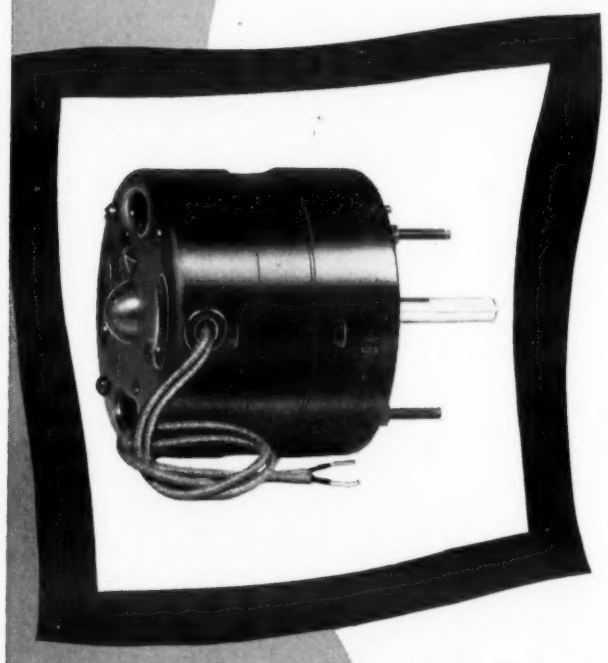
During the past year there have been many complaints of unethical practices by some dealers here.

## *Frigidaire Planning To Build Atlanta Office, Warehouse*

ATLANTA — Construction of a large regional office and warehouse building here is being considered by Frigidaire, it was revealed at a recent rezoning hearing held by the City Planning Commission.

The L. & N. Railway has requested that a 750-ft. strip on Donnelly Ave. be rezoned to permit business construction. The carrier said Frigidaire wants to erect a warehouse and office building there. The railroad's proposal was opposed at the hearing by area residents.

RAYTHEON
fractional hp motors
dependable performance

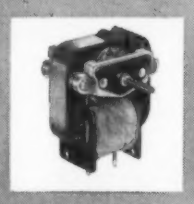


"Count on Raytheon to run it." Design engineers have learned to rely on Raytheon fractional hp motors when they want to *run* things—for example, FANS, BLOWERS and AIR CONDITIONING EQUIPMENT.

Raytheon Creative Craftsmanship assures *Dependable Performance* at the shaft—the kind of trouble-free power unit that manufacturers need in today's competitive markets.

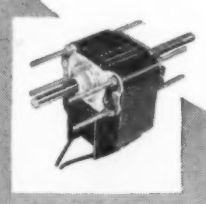
Call in your Raytheon representative for consultation on your specific application.

TYPE 330-S Shaded 4-pole 1/200 to 1/10 hp. 1550 r.p.m. motor. Concentrated power in a smaller package. Frame, 3⅜" diameter. Less weight per hp. Unique Raytheon design provides unusually high efficiency—up to 35% in largest ratings. Dynamically balanced for exceptionally quiet, smooth operation. Available to specification with control by reactors or tapped windings.



RAYTHEON Type 230 Shaded 2-pole 1/200 to 1/50 hp at 3200 rpm motor.

RAYTHEON Type 470 6-pole, 1050 rpm, 1/15 to 1/8 hp 1050 rpm motor.



RAYTHEON Type 350 Shaded 2-pole, 1/40 to 1/6 hp at 3000 rpm motor.

R

RUSSELL ELECTRIC COMPANY
MOTOR DIVISION OF RAYTHEON MANUFACTURING CO.
4501 So. Western Boulevard Dept. K-27 Chicago 9, Illinois

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GENERAL CONTROLS are in charge!

GENERAL CONTROLS
801 Allen Avenue. Glendale 1, California
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FACTORY BRANCHES: Baltimore 5, Birmingham 3, Boston 16, Buffalo 3, Chicago 5, Cincinnati 2, Cleveland 15, Dallas 1, Denver 4, Detroit 8, Glendale 1, Houston 6, Kansas City 2, Minneapolis 2, Newark 6, New York 17, Philadelphia 23, Pittsburgh 22, St. Louis 12, San Francisco 7, Seattle 1, Tulsa 6.
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Most Complete Line of AIR CONDITIONERS in the most popular size ranges
1½ TO 20 TONS

Evaporative Condensers
3 TO 20 TONS

Backed by more than 40 years of air cooling experience

TYPHOON Air Conditioning Co., Inc.
794 Union Street, Brooklyn, N.Y.

# New star salesman for Kelvinator dealers!

**IT'S MORTON DOWNEY, star of the sparkling new Kelvinator television show, "STAR OF THE FAMILY," televised coast-to-coast *every week* in every major television city and town in the country!**

**In the short few weeks since its première, this great new show . . . with Morton Downey singing and emceeing . . . has already brought to American families such noted performers as Morey Amsterdam, Joan Edwards, The Ink Spots, Miss America of 1951, The Rooneys, Connie Boswell, and other topflight stars of the entertainment world.**

**It has also brought to millions of American families fuller awareness of another great family—the whole family of Kelvinator Electrical Products, featured attractions at all Kelvinator dealer stores.**

**Here is great new advertising and merchandising backing from Kelvinator that is doing a powerful selling job for retailers right now . . . and one that will help them build solidly for the future.**

**Here is dynamic new expression of Kelvinator's retail-minded thinking . . . dramatic fulfillment of that pledge in the Kelvinator Franchise book which states:**

**"*Retail-Minded Advertising . . .***

***The sincere and forceful character of Kelvinator advertising builds an ever-increasing preference for the products of Kelvinator, and respect for the dealers who handle them. The measure of every advertising program is . . . how effectively will it contribute to the sale of merchandise for the retailer? And that simple but sure gauge of merit will remain the guiding consideration in the designing of Kelvinator advertising . . . through the years."***

★ ★ ★

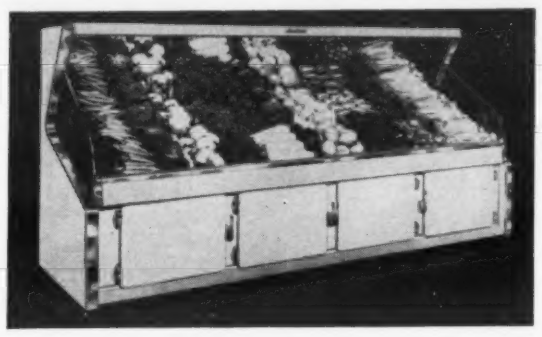
***Above: Morton Downey, singing star and Master of Ceremonies of Kelvinator's "Star of The Family" show, and John Laing, announcer, on the night of the première.***

GET MORE Get Kelvinator

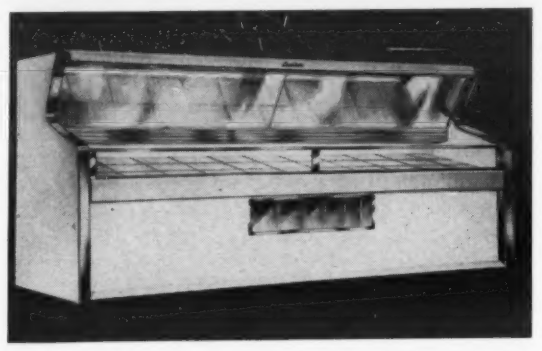
THE MOST VALUABLE FRANCHISE IN THE APPLIANCE INDUSTRY

***TUNE IN! CBS-TV***
KELVINATOR'S
"STAR OF THE FAMILY"
See your local paper for day, time and station

KELVINATOR • DIVISION OF NASH-KELVINATOR CORPORATION • DETROIT 32, MICHIGAN



MODEL GO-11, enabling mass display, is built without front glass.



Model VN-11S is companion case to GNS and GJA refrigerated models.

* * *

# McCray Brings Out 8 New Display Case Models

KENDALLVILLE, Ind. — McCray Refrigerator Co. here has announced introduction of eight new self-service display case models.

Four of the models make up the GR line of rear-fill meat cases while two comprise the VN line of unrefrigerated produce cases. The other two are the Model GO-11S double-duty produce case and its unrefrigerated companion case, Model VO-11S.

Model GO-11S is said to permit "mass refrigerated produce display at easy-to-see, easy-to-buy level." The case is built without the conventional front glass to provide "unhampered accessibility" to the entire display.

According to McCray, the mass display effect was made possible by setting the new "high angle," 36-in. display shelf in the case at 80° to the 26-in. mirror. This is claimed to make the display "look twice as big."

Proper refrigeration even without the front glass is provided, McCray said by the company's Koldfflo system, re-engineered for this new model.

"A damper in the base controlling air circulation in both display and storage compartment means accurate temperature control throughout the case, and a constant flow of refrigerated air above, below, and through the produce at just the right temperature," the company stated.

Exterior dimensions of the GO-11S are: length with ends, 11 ft. 6 in.; depth, 46½ in.; height, 73½ in.

The front is finished in white and grey porcelain, capped with a rounded reach-in rail of stainless steel and anti-sweat heater coil. The ends are white baked enamel trimmed in stainless steel. A ⅜-in. polished plate glass forms the ends of the display section.

A guard rail runs the full length of the case to protect finish from damage by self-service carts.

Interior finish of the display compartment is white and black porcelain. This compartment is fitted with telescoping anodized aluminum shelves adjustable to seven positions (permitting either deep or shallow display, as desired). Perforated aluminum dividers are standard equipment.

McCray extruded aluminum 4-in-1 price tag molding fits at the upper edge of the mirror, accommodating 1¼-in., 1½-in., 3-in., and 3½-in. price tags.

The mirror is electro copper plated, and has a five-year guarantee against silver deterioration. It is equipped with anti-sweat heater coil. High level, shadowless lighting is furnished by two 60-in. fluorescent lamps in the superstructure.

Available to the customer is a water cooling coil, a hose, and nozzle for spraying.

The McCray GO-11 cases may be set end to end for continuous display, or they may be joined to the McCray VO dry vegetable cases of the same design but unrefrigerated.

Displays of fruits and vegetables in Model VO-11S may be made either dry or sprinkled.

The general lines of this model follow the GO-11S in every detail with the exception that the VO does not have full storage space in the base. It does have a bag compartment in the front panel, having six compartments and holding bags up to size No. 16.

### SHELF SECTIONS ADJUSTABLE

Shelf sections in the display compartment are of tin-coated wire construction adjustable to four positions.

The GR line of rear-fill meat cases consists of the following models:

GR11, a case without superstructure; GR11S-T, which has a superstructure with sliding transparent mirrors; GR11S-S, which has a superstructure in which the lower inch of the sliding mirrors are left unsilvered for vision into the case from the back; and GR11S-P, which has clear glass in the superstructure, giving the shopper a full view of the cutting and pre-packaging room.

The cases may be joined together for continuous display.

The exterior front of these models is white and grey porcelain. The top is stainless steel, back is white baked enamel, and superstructure grey baked enamel. The removable ends are white baked enamel with stainless steel trim.

A two-course Thermopane glass 7 in. high and having a metal top guard rail forms the front of the display section. The ends of the display area are ⅜-in. polished plate glass.

The interior of the display section is white and black porcelain. It is fitted with telescoping anodized aluminum shelves adjustable to three positions. A glass baffle at the front of the display section serves as a spill-over air return to the coil.

These cases have the 4-in-1 price tag molding and a grey porcelain guard rail.

The interior of the storage compartment is black porcelain.

An optional feature is an assembly of adjustable shelf supports and tinned wire shelves for the storage of pre-packaged meats. Each shelf will hold two trays 24 in. long, 12 in. wide.

Service height at the rear of the case is 40 in.; customer reach-in height is 38 in.; height with superstructure, 65½ in.; length 11 ft. 6 in.

### ADJUSTABLE AIR DAMPER

Temperatures of 28° to 32° are recommended for self-service meats. The storage compartment is provided with an adjustable air damper which is said to make it possible to maintain a slightly lower temperature in the base.

The VN line of produce display cases are built to serve as companion cases to both the McCray GNS and GJA lines of refrigerated self-service cases.

Two sizes of cases are included in this line: the VN-11, 11 ft. 6 in. in length, and the VN-8, 8 ft. 6 in. in length. Display of fruits and vegetables may be made in this case either dry or sprinkled.

The front of the VN models is finished in white baked enamel and grey porcelain enamel with stainless steel trim and black porcelain base. A plate glass 7 in. high with metal top rail forms the front of the display area.

A bag compartment like that of the VO-11S is set in the front panel The case is equipped with a grey porcelain guard rail.

Ends of the cases are all steel with white baked finish and stainless steel trim. The ends are removable for joining cases together, or for joining with McCray GJ or GN refrigerated cases. A plate glass partition is to be used when joining VN models with GJ or GN cases.

Interior finish of the upper part of the display compartment is white baked enamel. The floor is galvanized iron. The display shelf, adjustable to two positions, is made of tin-coated wire rod. Dividers are provided as an extra where desired.

The superstructure has a full-length mirror 20$^{11}/_{16}$ in. wide and electro copper plated. McCray price tag molding and fluorescent lights are provided.

Where desired, a spray attachment consisting of hose, nozzle, and pipe connection can be furnished as an extra.

Dimensions of the case are: length of the VN8 with ends, 8 ft. 6 in.; length of the VN11 with ends, 11 ft. 6 in.; depth of both 39 in.; height 64 in. The display shelf area of the VN8 is 20 sq. ft.; of the VN11, 27.5 sq. ft.

## Freezer Tax Still Vague--

*(Concluded from Page 1, Column 2)*

Until some clarification is made, many condensing unit manufacturers feel that they must apply the tax to any condensing unit that they ship out unless they get one of two things

1. An exemption certificate from the manufacturer or assembler of home freezers to whom they sell which says in effect that the assembler will pay the tax.

2. A statement from the purchaser of the condensing unit that the use to which the unit will be put is non-taxable, thus shifting the liability from the manufacturer to the purchaser.

Thus, under this situation, the tax would be applied to most fractional horsepower units shipped to individual wholesalers and dealers.

## New Kelvinator Prices--

*(Concluded from Page 1, Column 2)*

gins and to cover recent rises in manufacturing costs.

Comparative prices on the two products are as follows:

### WATER HEATERS

| Model | Former | New |
|---|---|---|
| K10-12S | $ 89.95 | $ 94.95 |
| K10-20S | 99.95 | 104.95 |
| K10-20D | 109.95 | 114.95 |
| K10-30S | 109.95 | 114.95 |
| K10-30D | 119.95 | 124.95 |
| K10-40S | 122.95 | 127.95 |
| K10-40D | 132.95 | 137.95 |
| K10-52S | 132.95 | 142.95 |
| K10-52D | 142.95 | 152.95 |
| K10-66S | 149.95 | 159.95 |
| K10-66D | 159.95 | 169.95 |
| K10-82S | 169.95 | 179.95 |
| K10-82D | 179.95 | 189.95 |

### HOME FREEZERS

| Model | Former | New Prices Product Including Warranty | Federal Excise Tax |
|---|---|---|---|
| FL-6 | $229.95 | $259.95 | $13.40 |
| FR-92 | 329.95 | 349.95 | 17.40 |
| FR-122 | 379.95 | 399.95 | 20.05 |
| FR-202 | 549.95 | 569.95 | 28.60 |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Solves Tough Stamping Problem

Former methods of stamping double sump sinks were complicated and costly. Each half was drawn separately, then butt welded together to form a complete double-well sink. This method presented two major difficulties . . .

**TROUBLE NO. 1** In addition to processing two separate parts, extra time and labor was required to trim, butt weld, and finish welding seam—greatly increasing the cost of the piece.

**TROUBLE NO. 2** The welded seam always caused headaches after enameling. Enamel chipped off during production, in the warehouse, and often in the field where the full sales price of the product became a total loss.

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Refrigerator Door Panel (28⅛" x 43")

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31 E. 4 Street, New York 3, N. Y.

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There are three things that can help you build more Electric Range sales. Like other successful dealers everywhere, you can increase your sales by doing these three things. Here's how:

## DO THIS →

Have an Electric Range plugged in right on the sales floor. Then you can really give the prospect a demonstration. Flip the switches and the elements heat up right in front of her. She can see how fast this happens. She can touch the oven and feel how cool it is outside when it's hot inside. It's always easier to sell a "live" range than a "dead" one. Demonstrations build floor traffic, too! But in addition . . .

## DO THIS →

Don't let the sale drop when delivery is made. Make follow-up calls on purchasers. When a customer buys an Electric Range, chances are she's not too familiar with its operation. Have the salesman or home economist visit the customer once or twice *after* delivery, and demonstrate the range in the customer's own home. She needs only a little help and she'll learn where every control is, and how to use it. Then she'll be the kind of satisfied customer who is a good salesman for you, can bring you a lot of other customers. And also . . .

## DO THIS →

Like other successful dealers and salesmen, use an Electric Range in your own home. That's the best way to get yourself enthusiastic, to be convincing when you're telling prospects how easy this range is to use; about its coolness and economy; how its automatic controls save time, and what delicious meals it cooks. First—install an Electric Range in your own home.

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Remember—when your store has a three wire service to demonstrate Electric Ranges, it is also wired for other appliances—such as Electric Water Heaters and Electric Clothes Dryers. This, of course, spreads the wiring cost; helps boost sales in general, because any appliance sells better "live" than "dead."

**ELECTRIC RANGE SECTION**

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# NCRSA Panel on Problems of Selling

By C. Dale Mericle

NEW YORK CITY—Pros and cons in the problem of improving sales for the commercial refrigerator distributor with cooperation of the manufacturer were aired in a panel discussion between these two industry branches during the fourth annual convention of the National Commercial Refrigerator Sales Association at the Hotel Astor here.

If the lengthy discussion was to be summed up briefly, it would indicate that manufacturers are desirous of helping their distributors grow stronger, but the problem is still, and necessarily so, largely up to the distributors themselves, it was emphasized.

Four manufacturers were represented on the panel in the persons of A. B. Biddle, general sales manager of Hussmann; Paul Jackel, sales manager of Tyler; J. L. Kaufhold, general sales manager of Weber; and C. K. Litman, vice president of Koch.

Speaking for the distributors were H. B. Adams of Tampa, Fla.; Barnett Berch of Long Island City, N. Y.; I. Rosenberg, Jr., of Pittsburgh; and I. W. Shell of Chicago. C. S. White, president of NCRSA, served as moderator.

## What the Mfrs. Said

### *'We Must Give and Get Full Cooperation In Order To Solve Sales, Servicing Problems'*

Lead-off man was Biddle, who first outlined his opinions as to the functions that should be performed by the manufacturer.

"The manufacturer should build a good line and sell it at a fair price. He must advertise and promote the sale of those products. He must back up his products with a service organization and a definite service policy. He can study distribution methods and educate the distributor. He can furnish the distributor and dealer with supervision and field help.

"The manufacturer can give the distributor sufficient territory so the latter can feel secure and build for the future. The manufacturer can also operate profitably on a clear-cut policy to assure leadership for the dealer or distributor, and he should support the NCRSA.

"The distributor, on his part," Biddle went on, "should represent the manufacturer in such a way to build up the manufacturer's name. The distributor should build a sales organization big enough to cover the territory with salesmen who are a credit to the industry. The distributor must advertise, promote the product in his territory, and promote his own name.

"The distributor should set up a proper service organization and set up a service reserve for each piece of equipment sold. He should set up a proper bookkeeping system so he can know the status of his business. The distributor can accept the manufacturer's counsel on fair prices and give the manufacturer fair sales. The distributor must support the NCRSA and all it stands for.

"There are points of dissension," Biddle admitted, "such as direct sales to ice cream companies, etc. on the part of either the manufacturer or distributor where the equipment is used as a football. That's a problem that can be met, but you can't separate the refrigeration business from the food business.

"Distributors," Biddle concluded, "are in a better financial position today than at any time in their history."

Kaufhold, Weber's general sales manager, next told the group that "more education is desirable, and ideas should be pooled for more effective selling.

"Today you no longer can have two sides to a certain product and expect to win by taking apart one argument. What happens to a single manufacturer or distributor in an area can happen to others.

"Sometimes in the heat of making a sale we forget that we're all part of one industry, an industry that makes it possible for us to produce and sell. We as manufacturers must agree that all equipment has merit. We as manufacturers can do a job along sales lines to educate the consumer that he has bought a product of value.

"As a manufacturer," Kaufhold declared, "I believe we should supply the most modern, up-to-date selling counsel and tools. As manufacturers we feel that we can best work out our problems among ourselves and not by legislation. Manufacturers and distributors have to get along."

For his part, Litman, vice president of Koch, emphasized that "as a manufacturer I can tell you that if the product isn't sold the manufacturer gets neither profit nor glory. We have to have full cooperation of dealers and distributors if we're to make money.

"From my point of view, the way to sell refrigerators is to have a reputable manufacturer and a reputable dealer. If the dealers could keep the factory operating at a fair volume and profit, that would be ideal.

"Now," Litman said, "a large group has become interested in selling refrigerators—wholesaler grocers, etc.—where sales of equipment are only incidental. Most food wholesalers aren't interested in selling equipment as such, but they want to see stores modernized and thus sell more of their products.

"They don't like selling refrigerators or the service that follows, and few of them have a service reserve. Yet," he emphasized, "there are more refrigerators being sold by the food wholesalers, and they are putting in store planning departments.

"I think the answer to this problem lies in the distributor who goes to the food wholesaler with the manufacturer behind him and explains how we can handle this better."

Jackel, sales manager of Tyler, explained: "Service is a very important part of our business. We as a manufacturer can make the best refrigerator in the world, but if it's installed improperly it won't work. Refrigerators also need good service after installation.

"Service and installation is now more exacting, what with open self-serve equipment, hot gas defrosting, etc. To assist our dealers and others in these problems, we have prepared an extensive service manual to show how these problems can be avoided or met.

"Another problem that we face is advising the customer of the limitations of the equipment. You can't install an open case, for example, under an air conditioning outlet or a fan where it will blow the air out of the case.

"For store planning the distributor needs a complete line, and we as manufacturers are striving to provide a complete line."

Jackel also cited his company's aids to store planning in the form of scale models of fixtures which enable the distributor and his customer to experiment with an almost endless variety of store layouts to find the best one.


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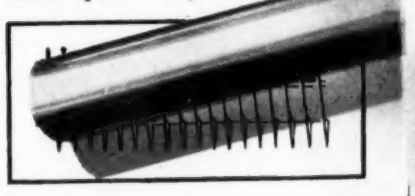

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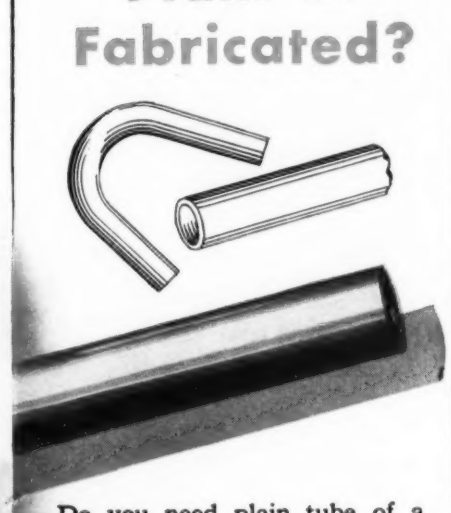

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# What the Distributors Said

## *'More Aid from Mfrs. Could Help Us Handle Larger Jobs, Achieve Effective Store Planning'*

After these four representatives from the manufacturers' side of the table had presented their opening remarks, it was the distributors' turn. First up was Barnett Berch, owner and general manager of the Shultz Co., Long Island City, N. Y.

"Two vitally important problems which we will likely encounter tomorrow should be considered today. It won't do us any good," Berch pointed out, "to wait until they're today's problems because then it will be too late.

"First, and tremendously important to both manufacturers and distributors, is the fact that the size of installations is growing rapidly. Installations now involve many cases, 10 to 15 compressors, and problems of traffic for 200, 300, or even 500 people.

"To handle big jobs the distributor has to become a big company, even though it's not easy for the small firm to grow into a big one. It's hard to handle installations of $30,000, $40,000, or $50,000, or the $70,000 I heard of just the other day.

"The distributor, I'm convinced, could do a better job of selling the chains tomorrow than the manufacturer, but another problem will be one of capital and the fact that many chains in the $250,000 class don't have cash to buy the equipment. That problem is coming on.

"Tomorrow," Berch predicted, "the distributor who is properly set up will be able to compete with the manufacturer by giving the chains better service than the chains can do themselves, even though buying direct from the manufacturer. The costs of cartage, installation, and service for chains could be reduced by the efficient independent distributor, and both the distributor and the manufacturer would get a nice healthy profit from this.

"I feel that in the future there will be fewer but larger distributors with increased financial power who can do the bulk of the work in their territories."

H. B. Adams, president of H. B. Adams Refrigeration, Inc., Tampa, Fla., commented that "manufacturers could give us a great deal of aid in training salesmen. Visual aids would help a great deal—slides showing the manufacturing processes that go into a product.

"Manufacturers could also keep us advised, perhaps by a weekly letter, as to how long deliveries will take under today's unusual conditions," he suggested, pointing out delivery schedules are constantly changing and such knowledge would help the distributor in dealing with his customers.

"I believe," Adams continued, "that we're the only major industry still selling with full recourse. We're penalized oftentimes by having some of our money witheld by finance companies, often as much as our profit on the deal, which cuts down our working capital.

"Assistance in basic store planning could be given to the distributors by the manufacturers, too. This means such things as directing of traffic and building profits for our customers."

"I don't believe we get enough out of these speeches," commented I. W. Shell, president of the Lee Shell Co., Chicago. "We don't work at it. We listen to these men but we think it might work for someone else, but it doesn't mean me.

"Why try to find out the hard way? Why not do it the easy way? Find out, by studying how manufacturers and other distributors do it, the best solution to such problems as salesman's compensation and other problems," he suggested.

"I believe our industry has grown up to the point where today we must eliminate those methods we used to employ in selling just a case or two. We were 'peddlers' then. Now we're 'store engineers' and if not you'd better get to be one.

"We've got to learn more about the merchandising, not more about our cases. All of them have about the same features, but our success lies in knowing how to merchandise and to help the merchant make more profit," Shell emphasized. "The manufacturer can lend a helping hand on modern merchandising and impulse buying."

Last of the brief but formal talks was presented by I. Rosenberg, Jr., owner of Refrigeration Equipment Co., Pittsburgh.

"What we want to know," he explained, "is what the factory will do to help us in our business. There is a source of business we should stress. Let's get some of the business that's abused by the large ice cream industry. Small ice cream manufacturers say they want to get the business where the brewery industry is today.

"We should go after fair trade practices. We should yell 'police' to get help against these big pirates, these big wolves who trying to eat us little wolves, as we were called this morning."

# General Discussion

## *Policing, Pricing, and Chain Selling Problems Aired at 'Question and Answer' Session*

After the formal talks, the session was thrown open to general discussion and questions from the floor. The following is a running account:

*Simon Heselov,* president, Store Engineering Service, Youngstown, Ohio —"We're still young and we're growing. In five years some of us are going to grow and will be big enough to handle chains. Is there anything at all the manufacturers can do to help us eliminate this competition, such as has been done in the brewery industry?"

*Kaufhold* (Weber)—"The problem has given manufacturers a headache for a good many years, but there are problems beyond the control of manufacturers here. The problem originated at one time because the distributor didn't take advantage of the situation. If the distributor could provide that business we wouldn't go after it.

"When we have tried to put distributors in position to take this step, it usually fails. Is it lack of agression? Is it lack of capital?

"There is another element that will come in if you don't, so that's why the manufacturer steps in. The manufacturer doesn't want this selling direct. We try to build up our distributors, but only in a few cases has it worked out."

*Rosenberg*—"What we're against is the ice cream man getting a meat case at a price for his ice cream customer. That's why we want 'policemen' as in the California law."

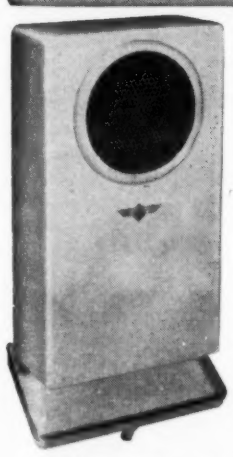
*Kaufhold*—"The policeman you call in may wind up telling you how to run your own business. Regarding the California law, it was promoted before the war by the ice cream companies. After the war a few companies found the 'policemen' were reachable. The big boys with the money can still get what they want."

*F. D. Stella,* president, F. D. Stella Products Co. Detroit—"Why don't the manufacturers quote f.o.b. list prices and then work with the distributor in the area to work out discounts as is done in other industries?"

*Biddle* (Hussmann)—"That's the $64 question, a hot potato. At no time in the Commercial Refrigerator

*(Concluded on next page)*


LOOK to LARKIN



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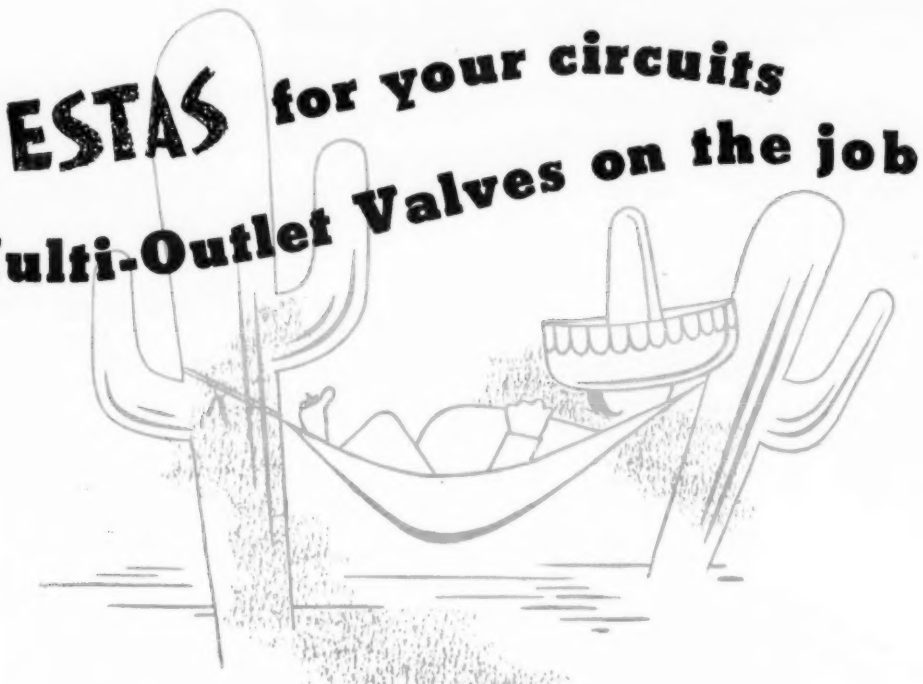

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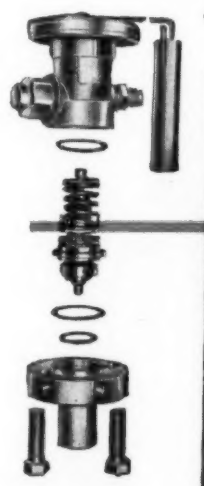

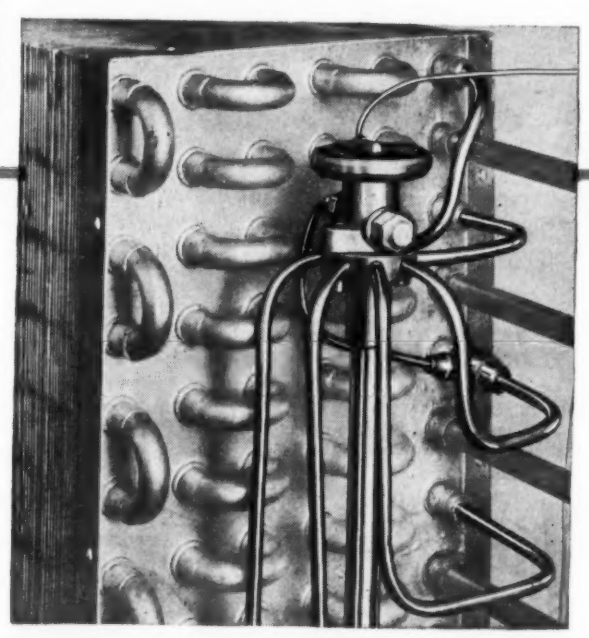

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3 Pin-point control—no wasteful "hunting" or "cycling"

4 Longer "off" cycle—saves current and wear on compressor

For all refrigerants, all requirements. ½ to 50 tons "Freon-12", 2 to 36 outlets. Full details in Bulletin 180.

Designers and Manufacturers of Thermostatic Expansion Valves; Evaporator Pressure Regulators; Solenoid Valves; Float Valves; Float Switches.

25 ALCO

A QUARTER-CENTURY OF PIONEERING AND PROGRESS

ALCO VALVE CO.

853 KINGSLAND AVE. • ST. LOUIS 5, MO.

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DETROIT CERTIFIED VALVES and CONTROLS

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Deal with Authorized DETROIT Wholesalers!

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Division of American Radiator & Standard Sanitary Corporation
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DETROIT HEATING AND REFRIGERATION CONTROLS • ENGINE SAFETY CONTROLS • FLOAT VALVES AND OIL BURNER EQUIPMENT • DETROIT EXPANSION VALVES AND REFRIGERATION ACCESSORIES • STATIONARY AND LOCOMOTIVE LUBRICATORS

Serving home and industry AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS
DETROIT LUBRICATOR • KEWANEE BOILERS • ROSS HEATER • TONAWANDA INN

EXCHANGING VIEWS on the problem of improving sales for the commercial refrigerator distributor during the panel staged at the recent NCRSA convention were these four representatives of manufacturers: (l. to r.) Paul Jackel, sales manager of Tyler; J. L. Kaufhold, general sales manager of Weber; A. B. Biddle, general sales manager of Hussmann; and C. K. Litman, vice president of Koch.

With C. S. White (center). NCRSA president serving as moderator, distributors were represented by I. Rosenberg, Jr. of Pittsburgh; I. W. Shell of Chicago; H. B. Adams of Tampa, Fla.; and Barnett Berch of Long Island City, N. Y.

# NCRSA Panel Discusses Problems of Selling

*(Concluded from preceding page)*

Manufacturers Association has there been any attempt to set pricing policy. It's against the law. Our job with the wholesale grocer is an educational job. If the job of education is properly done, the progressive wholesale grocer will listen to us. We at Hussmann sell nothing for resale except through our own distributors."

*Shell*—"We come to the conclusion at our NCRSA directors meeting that this organization is not designed to dictate to manufacturers to tell them how to operate. Believe me, they have their problems, too."

*R. L. Eggert,* Newark, N. J.—"What constitutes a chain store? It's getting to be a question as to just who is a chain. A distributor can create a lot of interest and the chain will buy from him, but why shouldn't the distributor be compensated for business that goes into chain stores in his territory?"

*Biddle*—"Speaking for myself, I remember very well before the war that many distributors really gave us the dickens for not selling chains direct, but since the war many more distributors are giving us the dickens for selling national chains direct. The chains have everything they need, and before they'll pay for services that aren't performed they'll build the equipment themselves. They've done it in the past."

*Eggert*—"But why can the scales people do it? If chains buy an automobile they go to the distributor, not the manufacturer. Why can't it be the same in the refrigeration business?"

*Rosenberg*—"Let's stick to the ice cream business. The big national dairies are murdering the small dairies. Let's concentrate on the weakest link—sales of other than ice cream cabinets by ice cream companies to their customers."

*Arthur Z. Smythe,* president, Hill Philadelphia Co., Inc., Philadelphia—"We're headed into a serious era because of shortages of steel, copper, 'Freon,' and fittings. Pretty severe rationing seems to be ahead. What then?"

*Jackel* (Tyler)—"We anticipate curtailment after the first of the year, but how much nobody knows. Outside of allottments based on previous business and potential of the territory, I can't see any answer."

*Litman* (Koch)—"We'll be in a period of uncertainty for the next six to nine months. We're going into this as we did into World War II. If we can't get enough material or the price is too high, we'll ask these questions: 'Are you a good distributor? Have you supported the factory?' If you played the game you'll be hurt no worse then anyone else.

"Now may I ask a question? How many of you distributors don't operate your own service department?"

The answer was none.

*Kaufhold*—"In view of these expected shortages I brought along a 'weeping towel' from California."

*Joseph A. Legasse,* Legassee Refrigeration Co., Boston—"Wouldn't it be a good idea if manufacturers checked with distributors before new policies are brought out?"

*Jackel*—"Our 14 field men bring in suggestions and ideas from the distributors that form 90 to 95% of our policy."

*Question* (unidentified)—"Couldn't manufacturers refuse to sell to dairies, frozen food distributors, and ice cream companies?"

*Litman*—"There are only 45 members in CRMA out of 90 manufacturers of consequence, so no agreement would hold. I suggest that you go out and try to get the business."

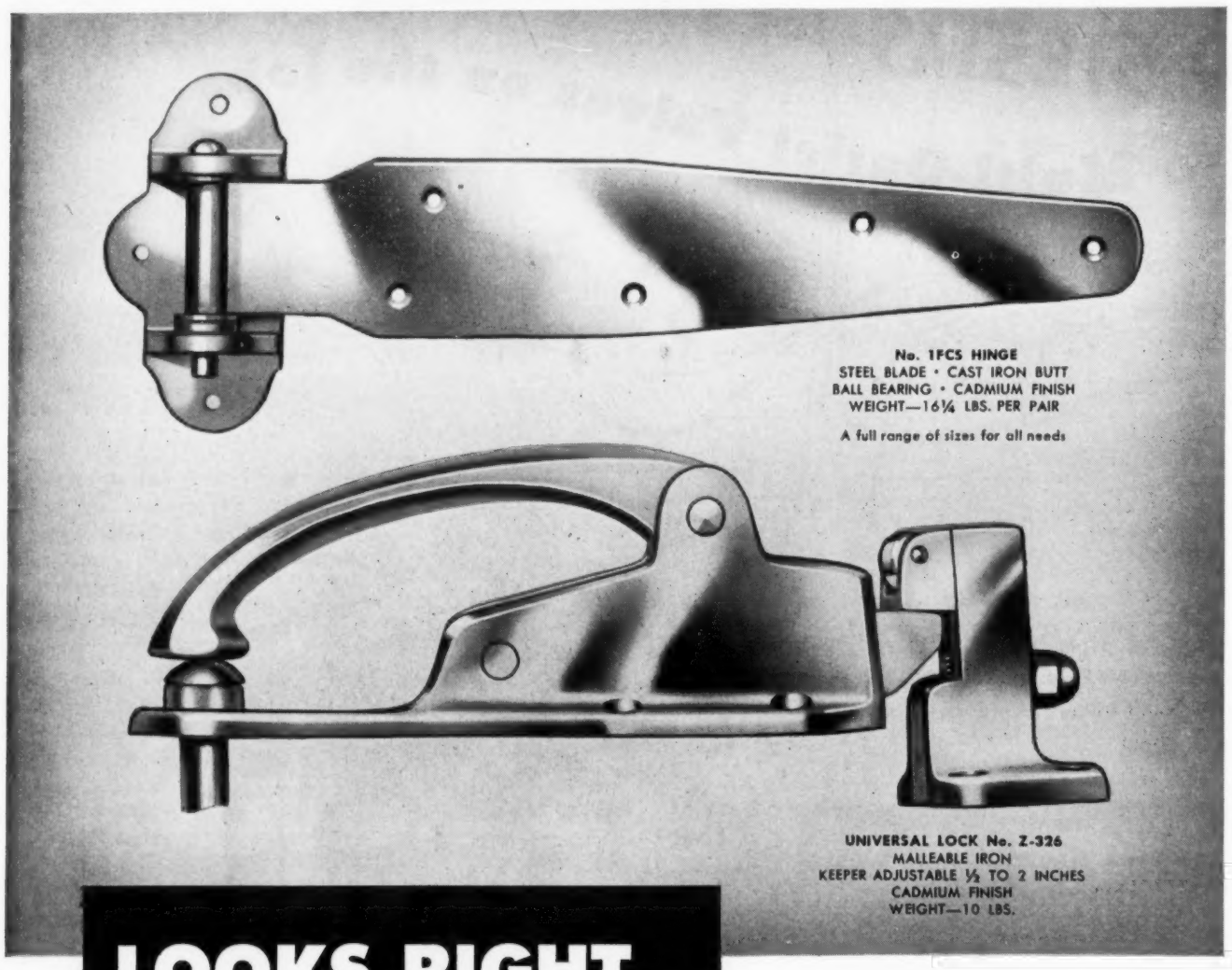
*Biddle*—"What is the real cost of equipment? At f.o.b., or at the end of one year, three years, or five years? You can educate dairies, ice cream companies, and food wholesalers on the cost, the real cost, of this equipment. We should educate ourselves first on the cost of doing business in this field and then educate these others.

"It has been pointed out that if a store gets a cabinet from an ice cream company, the store is limited to that one brand of ice cream. But the merchant could want to handle other brands, so that's a strong selling point for us."

*T. S. Quinn,* Erie, Pa.—"How about attacking the problem through milk control boards?"

*Nat Silverstone,* president, Silver-Stahl Corp., San Francisco—"We've never had these problems in our territory."

At this point the pressure of additional items on the agenda forced Chairman White to call a halt to the discussion.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STEEL BLADE • CAST IRON BUTT
BALL BEARING • CADMIUM FINISH
WEIGHT—16¼ LBS. PER PAIR
A full range of sizes for all needs
UNIVERSAL LOCK No. Z-326
MALLEABLE IRON
KEEPER ADJUSTABLE ½ TO 2 INCHES
CADMIUM FINISH
WEIGHT—10 LBS.

LOOKS RIGHT...
WORKS RIGHT... smart modern designs, sturdy construction—quality hardware that stays dependable.

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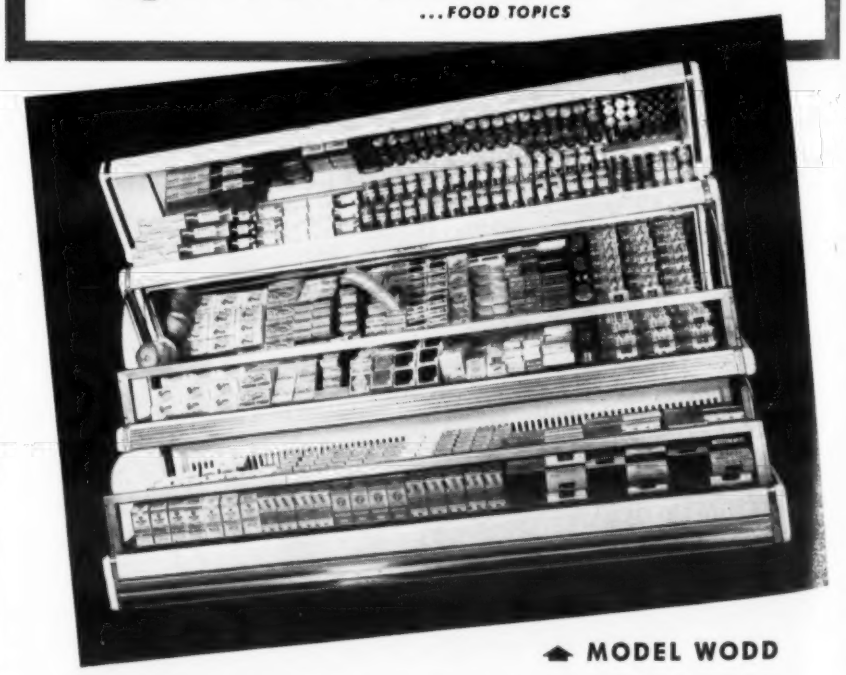
ROCKWELL MANUFACTURING COMPANY
FREEPORT, ILLINOIS

Switch to Self-Help Ups Delicatessen 30%
...FOOD TOPICS



MODEL WODD

WARREN MODEL FOR DAIRY AND DELICATESSEN

Any grocer who would like to increase his delicatessen and dairy sales (and do you know one who wouldn't?) is a potential buyer for the Warren Model WODD. Some territories are open now. Write for literature and further information.

THE WARREN COMPANY, INCORPORATED
P. O. Box 1436 • Atlanta 1, Georgia

# Retailers Accused Of Abusing Co-op Advertising Program

NEW YORK CITY—The board of directors of the Association of National Advertisers, Inc., has accused retailers of abusing vertical cooperative advertising contracts.

The board said the two main abuses are double billing and the refusal of dealers to share advertising rebates with cooperative manufacturers. The board's charges were based on a study made by ANA's cooperative advertising committee.

According to the board, an increasing number of retailers are "charging back such advertising expenditures at higher rates than they actually pay, thus violating agreements to share costs on a net basis."

Dealers were charged with basing their cooperative contracts on "an unrealistically low estimate of the total advertising likely to be used." In this case, it was asserted, "a sizable rebate accrues to the retailer at the end of the contract period, which the retailer in many cases does not share with his cooperative advertising suppliers."

Walter Lowy, executive vice president of Formfit Co. and chairman of ANA's cooperative advertising committee, told the board that correction of these abuses will reduce the cost of distribution and effect savings that probably would be put back into advertising.

## Repair Firm's Offer of Used Boxes at $10 Each Has Surprise Twist

SALT LAKE CITY—A decidedly eye-opening trend in used refrigerator sales was revealed here recently when the Acme Electric Co., which does not sell refrigerators, advertised and sold 25 old boxes in 48 hours, to be used as "trade-ins" on new boxes.

All of the old refrigerators, which sold for $10 each, were accumulated by Acme Electric Co. as repair jobs, and were never called for by their owners. To get rid of them quickly, the firm ran a block advertisement which was headed "Why be penalized? By not having a trade-in on that new refrigerator that you are planning on buying. We do not sell refrigerators, BUT we have 25 old ones that you can buy for only $10 each. Buy one, trade it to your favorite dealer on a new one, and make money. Some run, some don't. Sold as is. First come, first served, Acme Electric Co."

Dealers found the old boxes turning up within a week after the advertisement was run, and honored them as trade-ins of $35 to $50 on the purchase of new boxes. "We hope that this stunt doesn't spread too far," one dealer smiled. "Of course, there are not many old refrigerators offered as trade-ins which could come from such a source."

### Marino Appliances Files Name

BUFFALO—A business name has been filed in the Erie County clerk's office for Marino Electric Appliance Co., 518 Niagara St., here, by Joseph A. Marino.


**ROME-CONDENSER**
★ **Jointless Type** ★

Rome Water Cooled Condenser Coils insure trouble-free condensing equipment. Used by leading compressor manufacturers.

**ROME-TURNEY**
**RADIATOR COMPANY**
**222 CANAL ST.**
**ROME, N. Y.**


# How Equating Freezer Savings on Monthly Basis Can Clinch Sale

MILWAUKEE — A scratch pad survey form to be filled in by the home freezer prospect and the salesman in order to give a definite answer to the question, "How much will a freezer save for me?" is a new and important tool in the jumbo sales packet being offered to dealers by the Ben-Hur Co. here.

Called the "Let's Prove It" pad, it tells the dollar and cents economy of freezer ownership graphically and precisely for the individual prospect-according to the freezer manufacturer.

The "Lets Prove It" pad is based on university studies of food consumption, Department of Agriculture statistics, and current food costs. It lists the various types of freezable foods under four headings—meat and fowl, vegetables, fruits, and miscellaneous—includes a balance sheet, a take-home report for the prospect, a call back record for the salesman, and a blank page for figuring.

The meat and fowl section details the average annual meat consumption for adults, for children over 10 years, for children under 10 years, and for household pets. In blanks provided, salesmen and prospect fill in the per pound savings by using quantity-purchased frozen foods.

This is translated into dollars and cents and a bonus is figured in for the sportsman's bag. The final figure is carried over to the balance sheet on page two.

Freezable fruits and vegetables are figured in a similar manner with special allowances for consumer-raised foods. The miscellaneous section covers such items as leftovers, fruit juices, ice cream, and baked goods. The final figure for each of these sections is also entered on the balance sheet.

The next section of the "Let's Prove It" pad, the balance sheet, is personalized by entry of the prospect's name. Here the savings of freezer ownership are totaled and the size of freezer needed is figured.

In computing the exact size of freezer needed, special consideration is again given to the needs of adults, of children over 10 years, of children under 10 years, and pets.

The price of the right size Ben-Hur freezer is filled in, together with down payment and monthly instalments. Here, careful layout effectively compares the monthly food savings with the monthly instalment.

And, usually, the savings are greater than the instalments. The sales clincher is the line, "This Ben-Hur freezer will pay for itself in— months."

The last section of the survey form is a perforated slip which is filled in by the salesman and retained as a call report.

The rest of the "Let's Prove It" report is given to the prospect to take home, to use as a basis for family discussion.

## Phoenix Dealers Plan Home Appliance Show

PHOENIX, Ariz.—A series of promotions covering the remainder of the year have been arranged by the Apppliance Merchandisers Association, a local group of dealers organized on Aug. 28 of this year.

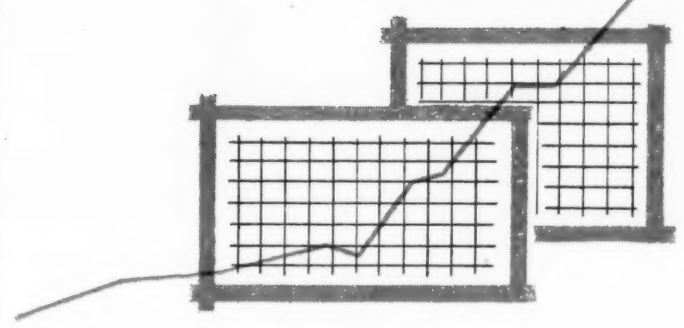
Six weeks after its organization, the group conducted a "TV-Week" promotion including an exposition and telecast. It followed that with a program on electric and gas heating equipment that extended through October.

Still to go are promotion on electric bed coverings during November and small appliances for the Christmas trade during December.

A general appliance show is scheduled for the first week in December. Latest models of all electric and gas appliances and housewares will be displayed.

Decals have been prepared for use by all members in their windows or on trucks and an advertising campaign has been conducted to acquaint the public with the insignia. The group has nearly 100 members.


**BIGGEST POTENTIAL MARKET IN THE BUSINESS!**



- **37 million American homes are prospects for automatic electric dishwashers and less than 2% of the market has been saturated.**
- **Good Housekeeping Magazine surveys indicate 32.8% of these homemakers are actually *planning to buy* an automatic electric dishwasher *now*.**
- **More families are buying Hotpoint dishwashers *each week* than in our *best pre-war year*.**

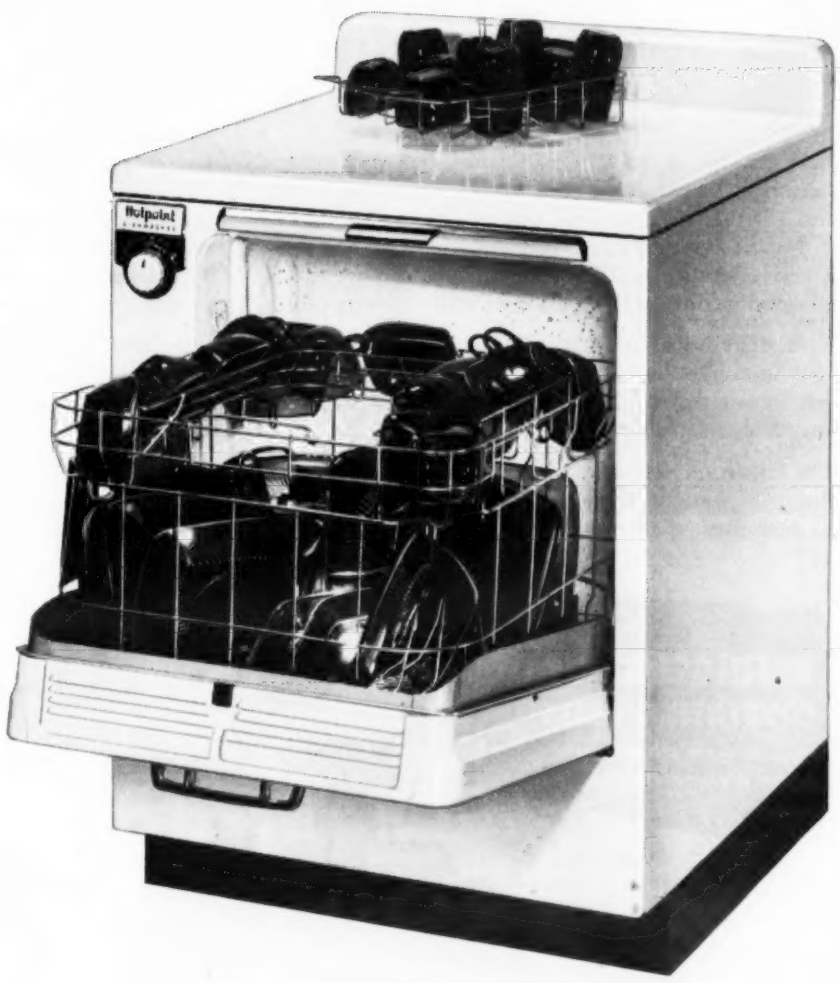
**HOTPOINT FIRST IN DISHWASHERS!**

★ **FIRST in Sales** . . . Hotpoint's sales of electric automatic dishwashers far exceed those of any other manufacturer.

★ **FIRST with Front Opening** . . . Hotpoint was the first to offer an automatic dishwasher with front opening—for greater ease in loading—for uninterrupted work surface—for convenient installation under counters or cabinets—for use of overhead, down-rinsing spray.

★ **FIRST with Electric-heat Drying** . . . Hotpoint was the first to provide electric-heat drying with its forced hot air circulation for faster drying with clean, hot air.

★ **FIRST in Customer Demand** . . . Hotpoint Automatic Dishwashers rank first among dishwashers wanted most by most people. You can get your share of the profit in this fastest growing appliance market with low investment. The turn-over is rapid and there are no trade-ins.




**Hotpoint Full-Line Leadership.**

**The Hotpoint line includes every major electric appliance for kitchens and home laundries—each an outstanding leader in its field. Talk to your Hotpoint distributor about the Hotpoint Full-Line Franchise.**

*Switch to Hotpoint!* **FOR FULL LINE LEADERSHIP**

**RANGES • REFRIGERATORS • DISHWASHERS • DISPOSALLS® • WATER HEATERS • CABINETS**
**FOOD FREEZERS • AUTOMATIC WASHERS • CLOTHES DRYERS • ROTARY IRONERS**

**HOTPOINT, Inc.**
(A General Electric Affiliate)
*5600 W. Taylor St., Chicago 44, Illinois*

## Whirla-Whip Displays Ice Cream Homogenator

The Whirla-Whip method of giving the conventional ice cream manufacturer a "soft ice cream program" was demonstrated in the Whirla-Whip, Inc., exhibit.

In brief, the program is this. Manufacturers install a Whirla-Whip "homogenator" at their dealers' fountains. Then in their own plants with existing equipment they manufacture Whirla-Whip from a prepared mix.

This need be manufactured in one or two flavors only, because each serving at the fountain can be of any flavor desired (and include nuts and fruit) since the homogenator works on each serving individually. The homogenator, which stands 33 in. high and 11¼ in. wide at the base, changes from one flavor to another instantly, without rinsing. It can be easily and quickly disassembled for sterilizing.

## Vendo Bows Automatic Ice Cream Dispenser

A new refrigerated automatic vendor for ice cream bars and ice cream stick novelties, field tested for more than a year, was introduced by The Vendo Co., which has been manufacturing bottled beverage vending machines for a number of years.

In this vendor for 3½ or 4-oz. ice cream bars, the lid moves over a polygonal shaped vending section containing a series of sections of variegated design, these sections holding the product. Thus there is no movement of the refrigerated section, practically eliminating any difficulties from freeze-ups.

Refrigeration is supplied by 42 ft. of copper tubing which winds around the interior of the cabinet and which ends up in a 2-in. accumulator in the direct center of the vending section.

A control bulb located very close to one of the ice cream bars operates a Ranco control to maintain temperatures of 0° F. in the vending section, and 0 to 10° F. in the storage section (space between the vending section and the interior walls of the cabinet).

The vending section is really a group of smaller 10-section compartments, made with aluminum partitions, and for defrosting, the attendant merely removes one section and substitutes one which he carries with him.

The frosted section is then defrosted by the time he gets to the next stop, where he can use it for a similar purpose.

Cabinet is insulated with Fiberglas on all sides and in the cover. Oblong hole for dispensing is flared upwards to keep condensate from vending section.

**Dairy Show Report**

**On this and other pages of this issue appear additional pictures and stories about exhibits at the Dairy Industries Exposition in Atlantic City. Other pictures and stories appeared in the Oct. 30 issue.**

## Coldmobile Shows Truck Engine Powered Systems

Coldmobile Co. exhibited working models of its truck engine powered refrigeration systems, including a refrigerated retail milk delivery truck, and a low temperature ice cream or frozen food truck equipped with blower type coils which is claimed to be first such application in this field.

The Model LR unit for milk trucks was shown as installed in an insulated Divco truck. Weighing only 125 lbs., the unit takes up no payload space or space in the driver's compartment. A variable speed compressor is driven off the truck engine, but capacity is controlled within close limits to maintain the rated figure of 8,000 B.t.u. per hour, it is claimed by the manufacturer.

Condenser is mounted ahead of the radiator, while the aluminum evaporator is attached to the ceiling of the body.

A triple-fan blower coil mounted on the forward bulkhead provides the cooling for the new Coldmobile low temperature ice cream truck unit introduced at the show. Compressor is driven off the truck engine, but is also fitted for stand-by electric motor drive.

Center spot of the display was devoted to the Model L "plug-in" unit intended for mounting through the forward wall above the cab of a truck. Compressor mounts separately on, and is driven by, the truck engine, being connected by flexible "Freon" lines to the condenser and evaporator unit, according to the company.

**Soft Ice Cream Homogenator . . .**

An exhibit that drew steady crowds was the demonstration of the "Whirla-Whip" homogenator. This is a program that enables the hard ice cream manufacturer to have a soft ice cream program. He can produce a Whirla-Whip mix, which is then placed in the homogenator at the retail outlet as shown here, and produce individual soft ice cream servings in any flavor desired, the flavoring being added to the individual serving before being "homogenized."

(See booth story on this page.)

**. . . Truck Refrigeration System . . .**

In the foreground Robert G. Mellem of Coldmobile Co. discusses with Roy Brannard of Telling Ice Cream Co., Cleveland, the Coldmobile "plug-in" unit intended for mounting through the forward wall above the cab of a refrigerated truck, while in the background Henry Kirkpatrick (left) of Coldmobile talks with George Roche and W. G. Thomas of Roche & Hull, Baltimore refrigeration supplies wholesaler.

(See booth story on this page.)

**. . . And Ice Cream Bar Vender**

E. Johnson of The Vendo Co. shows Janet Ball one of the removable sections in the vending compartment of Vendo's refrigerated ice cream bar vender. For defrosting purposes a section can be removed and replaced with a spare. Note cover to compartment with oblong openings. In this vender the cover moves, and since it is not directly refrigerated, there is no danger of a freeze-up in the mechanism.

(See booth story on this page.)

BRUNNER SINCE 1906 REFRIGERATION helps you serve better

*Your Good Name and Ours*

**could form a profitable partnership**

Talk to anyone in the trade who has sold or installed Brunner Refrigeration Condensing Units and they'll tell you *from experience* what it means in business dollars and cents to deal with a progressive, understanding organization that builds its products just a little bit better than is expected.

As a distributor or dealer, you need not be told how much easier it is to "sell" a job when you are in a position to specify and deliver *known* and *accepted* equipment.

The Brunner Manufacturing Company, with all their 44 years continual growth, has moved ahead so fast these past few years there are still some aggressive refrigeration equipment dealers who have missed the important details of what we may be able to contribute to their efforts toward securing more *profitable* business.

If you are at all concerned in the sale or installation of refrigeration and air conditioning equipment, Brunner has a story to tell that you should at least know about. A factory representative will call without obligation. Write us and say when.

**BRUNNER MANUFACTURING COMPANY**
**UTICA 1, NEW YORK, U. S. A.**

REFRIGERATION CONDENSING UNITS ...a size and type for every purpose

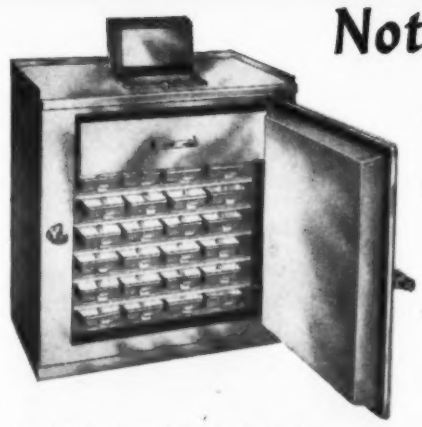
BRUNNER SINCE 1906

AIR AND WATER COOLED MODELS ¼ HP. to 75 HP.

BRUNNER SINCE 1906 **AIR CONDITIONING**
Self Contained Units in 4 sizes: 3 - 5 - 7½ and 10 HP.
Remote Installation Types from 5 to 75 HP.

*SUPREME ICE CUBE MAKER*

*Nothing Like It!*



★ NO BENDING DOWN TO GET CUBES FOR EACH DRINK!

★ CREATES ADDITIONAL WORKING SPACE! Flat top-surface lines up with standard workboards! Fits under your bar!

★ FINGER-TIP LIFT COVER SAVES TIME AND MONEY! Eliminates opening of door to freezing-compartment every time ice cubes are needed!

★ LARGE CAPACITY. Holds 672 ice cubes. Approximately 80 lbs. Freezes 336 cubes in 24 trays.

For details of our full line of all-steel under-bar beverage service equipment, send for Bulletin C50-N.

Manufactured by SUPREME METAL FABRICATORS, Inc.
27 Rodney Street • Brooklyn 11, N. Y.

# 'Keep Promoting, Keep Selling'

## Don't Let Up Because Market's Abnormal (When Has It Been Normal?), Says Bolin, Listing 5 Big Jobs That Need Doing 'Regardless of Times'

BOSTON—"In spite of the current situation our job is to keep pushing, keep promoting, keep selling, keep doing the things that have made the electrical industry great."

That advice was offered at the 15th annual conference of the International Association of Electrical Leagues, held here recently, by Roger H. Bolin, assistant to the vice president, Consumer Products, Westinghouse Electric Corp.

Bolin advocated the action in a talk on "Promoting Electrical Appliances In Today's Market." Specifically, he said there are five big promotional jobs that need doing "regardless of the times."

Bolin pointed out that all of the great expansion of the electrical industry since 1920, all of the great load-building campaigns, most of the development of the vast electric appliance and radio distribution system "came in a period of our history when men said absolutely nothing is normal." He continued:

"Today we face another market that is not normal. But just when has it been normal?"

### DEMONSTRATE TO SELL

The first big promotional job that needs doing, he said, is demonstrate to sell. He explained:

"Capitalize on the wide public acceptance of appliances by live demonstration. Demonstration is still the best form of selling.

"It might seem like old stuff to emphasize demonstration as the key to more sales. But it has been the post-war worry of manufacturers and distributors alike that many retailers failed to train and equip their salesmen to demonstrate the product effectively—to actually *show* the housewife how the product can save time, and money, and labor. . . .

"As proof of the value of good demonstration, I'd like to tell you a story out of our own experience. It concerns our own 'Studio One' television program. . . .

"This summer Betty Furness demonstrated a Mobilaire fan. Now this Mobilaire is not a low-priced fan. It retails for $69.95. But here are the results of just one effective demonstration of the Mobilaire fan on our TV program.

"In Chicago one distributor, the day following Betty Furness' demonstration, moved 890 Mobilaire fans. Dozens of dealers in other parts of the country reported they were completely sold out. This remarkable sales result was accomplished by a good demonstration in spite of the fact that this summer has been one of the coolest in 25 years. . . .

"Actually a person buying a two or three hundred dollar electrical appliance, or even one for $10, wants and is entitled to a good demonstration. Even if the product is short, even if the prospect has had her name on the list for several weeks, even though she is completely presold—there is great value in demonstrating to her how she can get the most out of it by proper use.

"It not only does her a favor—it also keeps selling her the value of electric appliances. But most important, it sells her on the store she is buying from."

A second job that needs doing, Bolin stated, is to "take a new look at an old line—electrical housewares."

After citing the increasing sales of various housewares, he said:

"The more alert retailers are beginning to segregate electric housewares from major appliances. They separate them physically and arrange attractive displays.

"They watch separate operating statements on these appliances. They train special sales clerks, who know how to demonstrate and sell these appliances. Then they plan special demonstrations and special promotional events just on these appliances. Probably the biggest thing that's done, however, is special sales training on electric housewares."

A third big job that should be undertaken, according to Bolin, is that of getting behind major appliance newcomers.

"I refer here to products like dishwashers, garbage disposers, home freezers, and electric clothes driers," he said.

"The sales opportunities are tremendous. Let's take the electric clothes drier. 73,000 electric driers were sold in 1948. 80,500 were sold in 1949. . . .

"I conducted a survey by mail on what was happening throughout the country on driers. I can report that the interest in promoting driers is widespread in most parts of the country, particularly on the part of utilities.

### TRY THE NEW PRODUCTS

"A number of utilities have gone ahead with intensive promotion activities. These are characterized by seven days' free home trial, spiffs to salesmen for securing free home trials, and additional spiffs for sales closed. . . .

"Sales of driers in some areas are running five, 10, and as high as 15 times what they were a year ago this time. . . .

"In market after market comes the report that the public is definitely interested in driers. Public acceptance is growing rapidly, much more rapidly in fact than it ever has before on any major appliances."

Bolin said the next job that needs doing is one that is important "whether we have high production or low production." That is to improve the level of appliance service.

"Many dealers are still lukewarm about their service operations," he declared. "They still look on service as a necessary evil. Yet the most successful dealers use service as a sales builder.

"There is no mystery about why they do this. The serviceman is the one member of the firm who has the most ready access to the prospect's home. He has the opportunity to see what appliances are there, how old they are, and what state of repair they are in. He has an opportunity to make suggestions and recommendations that the salesman never has.

"The serviceman is regarded as an unbiased, objective expert who has the straight, unvarnished low-down on what makes things tick and which ones are best. He can with all honesty suggest that the time has come to replace this older appliance with the latest model, and not be regarded suspiciously by the customer.

"Moreover, there is usually an element of gratitude in the relations between a customer and a serviceman. . . .

"If he is trained to build confidence, if he expresses regret at the annoyance caused by failure of an appliance, if he does a thorough craftsmanlike job of fixing it without cluttering up the customer's home, if he takes a minute to explain what he is doing and why things will be better from now on—he usually makes a friend. . . .

"Making the service department a sales tool has to start, of course, with the management attitude. Store management must set the pace. They must lay down the program and see that it is followed. They must see that the folks on the phone, the repairman on the bench, and the man who goes into the home—not only know their stuff—but also adopt a sales attitude.

"Extra compensations may have to be established to do this, but retailers who are using their service department this way say it pays rich dividends.

"One of the greatest contributions that could be made to the appliance business in my opinion would be the organization of a definite program, in cooperation with the distributors and dealers in their community, for training service personnel. This would stress the proper technique of handling service calls to assure customer satisfaction and produce increased sales of electrical appliances."

Another promotional job that is a pressing one, Bolin told the league managers, is increased effort on adequate wiring. He said:

"This is the key to our future success. This in the past was often the bottleneck of sales effort. Adequate wiring is the quickest and surest way of bringing about our goal of complete electrical living in every home."


# Why Frigidaire sales are growing fast in the fast-growing home laundry field!

**Yes, more and more homemakers** each year are buying automatic laundry equipment. And Frigidaire Dealers are winning an ever-increasing share of this important market.

**One big reason for this success** is the beautiful new Frigidaire line. Each product offers *proved* performance, *proved* dependability. Each has many major, exclusive features. Each is built to the same unbeatable quality standards that make Frigidaire America's No. 1 Refrigerator.

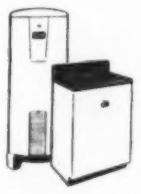
**Equally important,** these products are getting the vigorous, consistent kind of promotion for which Frigidaire is famous. Heavy national advertising is scheduled the year 'round. And the list of sales training and merchandising helps available to dealers would fill this page!

**No wonder Frigidaire Dealers agree** – you can't match a Frigidaire Franchise!

**New Frigidaire Automatic Washer** gets clothes *really* clean – thanks to exclusive Live-Water Action. The sensational new Select-O-Dial makes this washer *really* automatic. Has smart new styling, new high back panel, Lifetime Porcelain finish inside and out! No wonder so many women say – you can't match a Frigidaire Automatic Washer!

**New Frigidaire Electric Clothes Dryer** gets one washerload of clothes dry while the next load is washing – and does it whatever the weather. New variable temperature control permits choice of right heat for all types of fabrics. New built-in Ozone Lamp gives clothes fresh, clean smell. 115V. and 220V. models available.

**Frigidaire Electric Ironer** with Prestoe-Matic Foot Control. A slight toe-pressure controls iron and roll during ironing – leaves both hands free to guide clothes. Sag-Proof 30-inch open-end roll. Sheets, tablecloths and other large pieces can be ironed as easily as smaller ones. Height of ironer adjustable for maximum comfort.



**Frigidaire Electric Water Heaters** are equipped with exclusive, sickle-shaped Radiantube Units. Round upright models available in 30 to 80 gallon sizes. Tabletop models in 30 and 40 gallon sizes – available with porcelain or long-lasting new Vitalast working tops. Magnesium rod models available in areas with corrosive water.

# You can't match a FRIGIDAIRE FRANCHISE

## They'll Do It Every Time . . . . By Jimmy Hatlo

BIGDOME WOULDN'T GIVE HIS MOTHER A DISCOUNT TO MAKE A SALE··OR SO HE TELLS HIS SALES STAFF···
THERE'LL BE NO CUTTING OF PRICE JUST TO MAKE A SALE WHILE I'M RUNNING THIS ORGANIZATION!! YOU CALL YOURSELVES SALESMEN? WE'RE NOT COMPETING IN ANY PRICE WAR··· WE'RE IN BUSINESS FOR PROFIT··· UNNERSTAND?
BUT LISTEN TO HIM WHEN HE HORNS IN ON ONE OF HIS MEN WHO'S JUST CLOSING A DEAL···
ONE SIDE, HEWLINE··· I'LL HANDLE THIS··· WE CAN GIVE MR. CREEVY A MORE ATTRACTIVE PRICE THAN THAT···H'MM LET'S SEE··LIST PRICE LESS 50% LODGE BROTHER'S DISCOUNT··LESS 25% FOR CASH··LESS 10% FOR GOOD MEASURE··· LESS····
JIMMY HATLO
9-19
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Yes, she certainly is lucky—a beautiful home freezer is hers to enjoy, with its savings, its conveniences. Indeed, she's doubly lucky, for the condensing unit—the very "heart" of her freezer—is a famous Tecumseh Hermetic.

Over five million owners of various home appliances equipped with Tecumseh Hermetics find that these units are smoother, quieter, more dependable in operation; that they give a longer-lasting performance at a minimum cost.

It is this record of user satisfaction that has made Tecumseh Hermetics the first choice of leading freezer manufacturers. Today, there are more Tecumseh Hermetic units used in freezers than all other makes combined.

Tecumseh Hermetic units are available in both fan-cooled and static condenser type and cover the complete range of applications from 1/9 h.p. to 3/4 h.p.

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AIR CONDITIONING AND REFRIGERATION News

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"I have always felt that whatever the Divine Providence permitted to occur I was not too proud to report. The people are not served by pussyfooting, or by that sort of journalism in which nobody will ask who is the editor of a paper or the writer of an article, and nobody will care."—*Charles A. Dana.*

## How Foolish Can We Get?

BILLIONS of American dollars have been diverted and sub-diverted to Russia by Britain, France, and other European recipients of our tax-extracted gifts.

Commenting on Churchill's disclosure that England is selling war-machine tools to Russia, Tell Berna, general manager of the National Tool Builders Association, has evidenced:

"France, Italy, and Western Germany are also shipping machine tools to Russia or satellite countries. All of these countries, including England are getting ECA aid. In Italy, ECA helped to finance machine tool production on behalf of post-war rehabilitation. Today there are more manufacturers of lathes and vertical drilling machines in Italy than there are in the United States.

"Why? Italy does not require that much machine tool capacity. Is the Russian market the answer?"

Berna adds:

"In West Germany, where revival of the machine tool industry is part and parcel of the recovery program financed by American taxpayers money, machine tools are being built for shipment to the satellite nations in the Russian orbit, under permit from the American military authorities.

"Offenbach horizontal boring mills are being built for shipment to Poland, and critical grinding machines are being shipped to Hungary. Machines of these types are of vital use in the production of war material."

With one hand we deny machine tools to Russia. With the other we give England, France, Italy, and West Germany handouts of our tax-extracted money to help machine tool industries in subsidized Europe advance Russia and her satellite countries toward military self-sufficiency.

Does that make sense?

We are importing twice as much goods from Russia and her satellites—and paying them with dollars which can buy war material from any trader in the world—than we did before the advent of World War II.

Although the Truman Administration has millions of price-supported eggs stored in caves, Communist China is shipping us millions more.

The United States is buying Chinese eggs at the rate of $2,000,000 a month, to pile on top of our own unwanted hen-fruit.

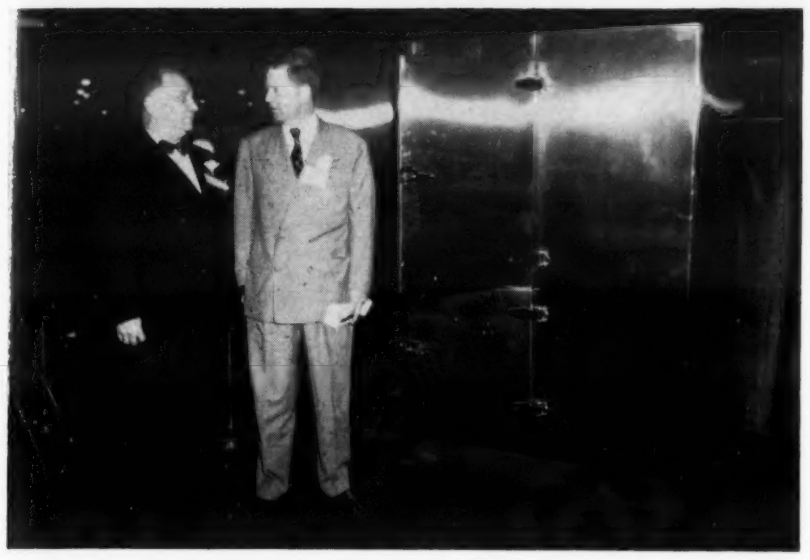
How foolish can we get?

## Your Vote Is Important

ONE vote elected one of our great presidents, Thomas Jefferson, in the Electoral College. One vote elected John Quincy Adams and Rutherford B. Hayes in the same way. And the man who cast the deciding vote for Hayes was a Congressman from Indiana, who was elected himself by only 1 vote. Just 1 vote brought California, Idaho, Oregon, Texas, and Washington into statehood. The draft act of World War II passed the House by 1 vote.—MORRIS SAYRE in "Are We Keeping the Faith?" *Royle Forum.*

**Visitors Looking Over Lighted Superstructure . . .**

This shot of the Ace Cabinet Corp. exhibit shows two of the new products introduced by Ace at the Dairy Industries Exposition. They are the new glass-front open-type ice cream and frozen food display case, and an open-top ice cream and frozen food merchandising cabinet. Note special superstructure design to emphasize pictured products. Ace also displayed a redesigned line of ice cream cabinets.



**. . . Vertical Hardening Cabinet . . .**

Frank Gumbs and Jack Treble of Emery Thompson Machine & Supply Co. discuss the new vertical hardening cabinet featured by Emery Thompson at the show.

**. . . And 'Plug-In' Display Case**

Bud Lonergan of Refrigeration Corp. of America and Janet Ball stand at either end of the "Frigid Freeze" model OTG-20 ice cream and frozen food display case. Also at either end of this case are ⅓-hp. condensing unit compartments, the twin condensing units being employed to keep the big case a "plug-in" operation.

(See booth story on this page.)

## New Items Exhibited At Dairy Show

### Ice Cream, Frozen Food Case Has Glass Front

A 20-cu. ft. glass-front low temperature display case, with two ⅓-hp. condensing units (to permit plug-in operation) and a 6-hole single ice cream cabinet which meets some special replacement requirements distinguished the Refrigeration Corp. of America exhibit.

The model OTG-20 has 18.9 cu. ft. capacity when used to merchandise ice cream and 20.8-cu. ft. capacity when used for frozen foods. The two ⅓-hp. condensing units, located at either end of the cabinet, are so connected that one will operate even if the other should fail.

Glass front is of 4-glass Thermopane with an additional panel behind to afford protection from the stacked packages. A special warm air defrosting duct keeps the display glass free from fogging.

The other glass display front case in the "Frigid Freeze" line has 13.6-cu. ft. capacity with ice cream products, and 14.9 cu. ft. with frozen foods. The OT-13, solid front open case has 13.3 cu. ft. capacity.

The six-hole "in line" self-contained single ice cream cabinet will have an application as a replacement for old jobs in restaurants and other establishments which have room only for the single cabinet. Other ice cream cabinet models include a new eight-hole double with 50-gal. capacity, increase of 7½ gals. from previous model, and a six-hole double.

### *Cabinet Cools Milk 31° Within 12 Minutes*

A new type of milk cooler for cooling milk in the cans was introduced by the J. A. Gosselin Co., Ltd., Drummondville, Que., Can.

In this new system the cooling coil of the unit is immersed in the milk in the can and is rotated by running water, which at the same time passes through the coil and comes out to flow around the outside of the can.

Claim is made than an 8-gal. can of milk can be cooled from 94° F. to 63° F. in about 12 minutes, with the cooling water at 61° F. Water consumption is said to be small.

### Machine's Conveyer Helps Freezing Job

Rotary booster compressors in a range of 2½ to 250 tons capacity for plants needing additional refrigeration equipment to handle larger loads or to produce lower temperatures, are now being made available by Freezing Equipment Sales, Inc.

This company also has available a continuous ice cream quick hardening machine, tailorable to a variety of plant sizes. Soft ice cream or packaged food moves on a sort of conveyor through a tunnel through which refrigerated air is continually forced. Freezing is accomplished in three to four hours.

## Vallee Is Appointed Sales Manager of United Mfg.

MILWAUKEE — Appointment of Thomas Vallee as general sales manager of the United Mfg. & Service Co., here, has been announced recently by Hal Hoard, president of the company.

The United Mfg. & Service Co. makes Unilectric wiring systems which are sold to manufacturers of electrical and refrigerated equipment for installation and use in their products.

Vallee, formrly assistant sales manager, has been with the company for 3½ years. He joined United as purchasing agent, and later assumed added responsibilities in the direction of the order and production control departments.

## Standard Supply Opens Branch In Connecticut

WORCESTER, Mass.—A branch of Standard Supply, Inc., refrigeration parts and supplies wholesaler here, was opened last summer in South Norwalk, Conn., Robert W. Sheperdson, president and treasurer of the company, has announced here recently.

The new branch will cover Fairfield county, Conn. and is under the management of James F. Rees, a native of the area and a member of the refrigeration industry for the past 17 years.

The branch occupies one half of a two-store building located at 76 Cedar St.



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One of today's most popular solenoids. Used to control flow of water or refrigerants on leading ice cubers. Small, compact, with capacity range up to 12.5 tons Freon 12.
Model 73RJX All-Purpose Solenoid may be used for control of water, air, gases, oil and non-corrosive liquids. Easier to install, positive in action, silent in operation, protected against coil burn-outs. See it at your wholesaler.

# New Items Exhibited At Dairy Show

## 'King Zeero' Ice Maker Runs at High Suction

An "ice builder" for sweet water and brine circulating systems in vertical cabinet design was displayed by The King Zeero Co.

This vertical ice builder has full flooded, vertical header type ice freezing coils with built-in accumulator, float valve controlled.

Staggered design and construction of the coil is such that the maker claims it permits manufacture of ice at highest suction pressures.

In operation, the ice builder tank is to be almost filled with water. Refrigerant is circulated through the louvers, and ice forms to a thickness of 2 to 3½ in. and the process is stopped. All the water in the ice builder tank is not frozen. When it is desired to use the stored up refrigeration it is only necessary to start the pump circulating water through secondary equipment. The unit takes only 4 by 5 ft. of floor space, and can be shipped ready for connection to the system.

## Airtemp Case Showing Hints at Expansion

Airtemp Division of Chrysler Corp. was displaying two models of ice cream cabinets in the Dodge truck exhibit.

It was indicated that Airtemp, which supplies one major dairy company chain with cabinets, may be "feeling its way" towards an expansion of its activity in the ice cream cabinet field. Further expansion may be contingent upon availability of materials.

## General Equipment Has New 'Topping Cabinet'

New "San-Serv" direct draw continuous freezers and a new "Serv-All" topping cabinet were shown by General Equipment Sales, Inc.

The freezers manufacture and dispense soft ice cream, sherbets, frosted malts, frozen custard, and other products continuously. Features include stainless steel construction throughout, fully automatic controls, new no-drip dispensing valve, silent chain or V-belt drive, silent dasher drive, stainless steel panels.

The two new models include the 3-hp. model producing 25 gals., and the 2-hp. model producing 15 gals.

The "Serv-All" topping cabinet provides refrigerated space for package goods, four fruit topping containers, one pump and plenty of working space for malt mixers, sundaes, malt cups, and the like. The storage compartment consists of two 12½-gal. storage compartments.

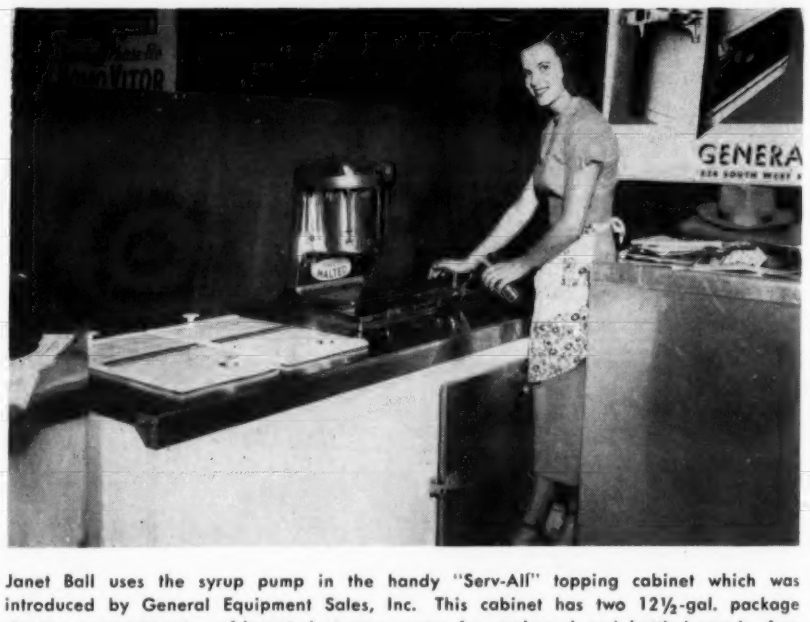
The topping cabinet features a stainless steel working top, white plastic sanitary lids, forged brass hardware, Dulux white enamel sides, stainless steel drawn fruit containers with stainless steel lids and labels, sanitary stainless steel pump.

The "King Zeero" vertical-type ice builder cabinet for cooling water or brine is discussed by J. I. Morrison of the King Zeero Co. and Forrest Borders, Borders Pure Milk Co., Bowling Green, Ky. (See booth story on this page.)

Stanley Bell of the R. H. Bishop Co. and W. A. Honeychurch of Universal Cooler of Canada study Bishop's model 24 HW-A open-type self-service dairy case for wall installation with bottom storage space.

A complete setup for "coin operated" in-plant feeding of industrial workers is offered by the Rowe milk vending machine (closed) at left, and the sandwich vending machine (open) at right. Both are refrigerated, of course.

Looking over this 12-qt. Monitor milk dispenser are Vice President R. A. Sullivan and F. C. Krasner of Monitor Process Corp. The unit can be had in remote models (for fountains) or self-contained models (for back bars).




Janet Ball uses the syrup pump in the handy "Serv-All" topping cabinet which was introduced by General Equipment Sales, Inc. This cabinet has two 12½-gal. package storage compartments, refrigerated storage space for packaged and bottled goods, four fruit topping cabinets, one syrup pump, and plenty of working space for malt mixers, cups, etc.

(See booth story on this page.)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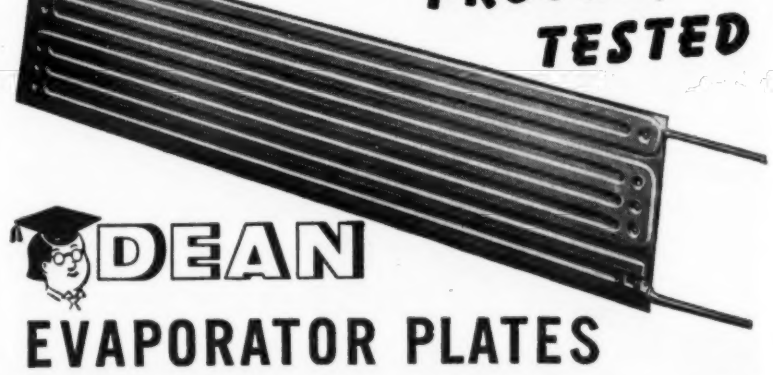

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Kold-Hold Mfg. Co.'s exhibit displayed a variety of refrigeration products for the dairy products field, including "hold-over" refrigerated trucks plates, evaporators for truck refrigeration, liners for cabinets, and plate banks and stands for cooling rooms. In the right foreground Kold-Hold's president J. R. Tranter points out some features of a plate evaporator, while at the far left Lee Worthington points out some high points of a "picture display" of installations.

(See booth story on this page.)

In front of an instant water cooler C. E. Trudeau of C.I.T. and Russell H. Moore of Frick get into a discussion.

The new Schaefer open ice cream merchandising display cabinet with deep glass front commands the attention of Sally Dougherty.

(See booth story on this page.)

## Unit Separates Milk Without Pre-Heating

Exhibited by The Sharples Corp. were new cream separators for separating milk at storage (40° F.) temperature without pre-heating. They are available in three sizes with capacities of 2,000, 4,000, and 6,000 lbs. per hour. The same unit can adequately handle hot milk at greatly increased capacity and equal skimming efficiency.

# New Items Exhibited At Dairy Show

## Anheuser-Busch Shows Extensive Cabinet Line

Displayed by the Refrigerated Cabinet Division of Anheuser-Busch, Inc., was its extensive line of ice cream cabinets, and open-top and glass-top merchandise cabinets.

With the 6-hole double cabinet the leader in the ice cream cabinet line, it extends down to a 3-hole single model and up to a 12-hole double cabinet.

Refrigeration is supplied by Copelametic condensing units. Evaporator consists of copper tubing 100% soldered to the cabinet liner, with system designed to expand refrigerant first near the top, and equipped with built-in refrigerant accumulator on suction end of coil to keep the refrigeration effect around the storage tank where it belongs. Thermostatic switch at front of condensing unit compartment makes possible user temperature adjustments.

Cabinets are marked by all-steel white shell, one-piece stainless steel top, and white plastic lids.

## 'Hold-Over' Plates Get Dairymen's Attention

Array of refrigeration products for the dairy industry displayed by Kold-Hold Mfg. Co. included evaporators for truck refrigeration, truck plates for refrigerating ice cream and dairy products in transit, liners for cabinets, plate banks and stands for cooling rooms, salad tray and sandwich tray plates.

Focal point of attention for many dairymen was the display of "hold-over" truck plates which make possible day-long truck trips with dairy products with complete safety assured for the products which are being carried.

"Hold-over" plates mounted in a truck keep the interior cool for a pre-determined period without use of a compressor on the truck. At night or whenever the truck is not on the highway, the plates are "charged" by connecting them into the plant cooling system.

This method thus builds up a "charge" of flint ice within the plate that keeps the truck and its contents at safe temperatures throughout the next day's haul, according to the company.

## Glass-Front Cabinets New Schaefer Items

A broad line of ice cream cabinets and ice cream and frozen foods merchandising cabinets were on display in the exhibit manned by representatives of Schaefer, Inc.

Among new items displayed were glass-front merchandising cabinets. These were distinguished by extra deep display glasses and dividers in the display compartment.

*speaking about*

**TRADE-INS**

is a spiffy new 24-page booklet just published by the NEWS. It presents you with some fresh, dandy ideas on how to help eliminate one of your perennial bugaboos, the "trade-in" problem.

The whole problem is divided into three categories and some sound, sensible methods on how to deal with each category are described. 1. Acquiring the "trade-in" and determining its worth. 2. Reconditioning the "trade-in." 3. Marketing the "trade-in."

The whole contents of this booklet is compiled from the best articles on and experiences of other appliance dealers whom the NEWS has talked to in the past year. These ideas are actually used successfully and perhaps they would work as well or better for you. At least you can read about them and see how they fit in with your operation.

The booklet sells for 50¢ a copy. Order now! Use this coupon.

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**ALL-ANGLE OPERATION**

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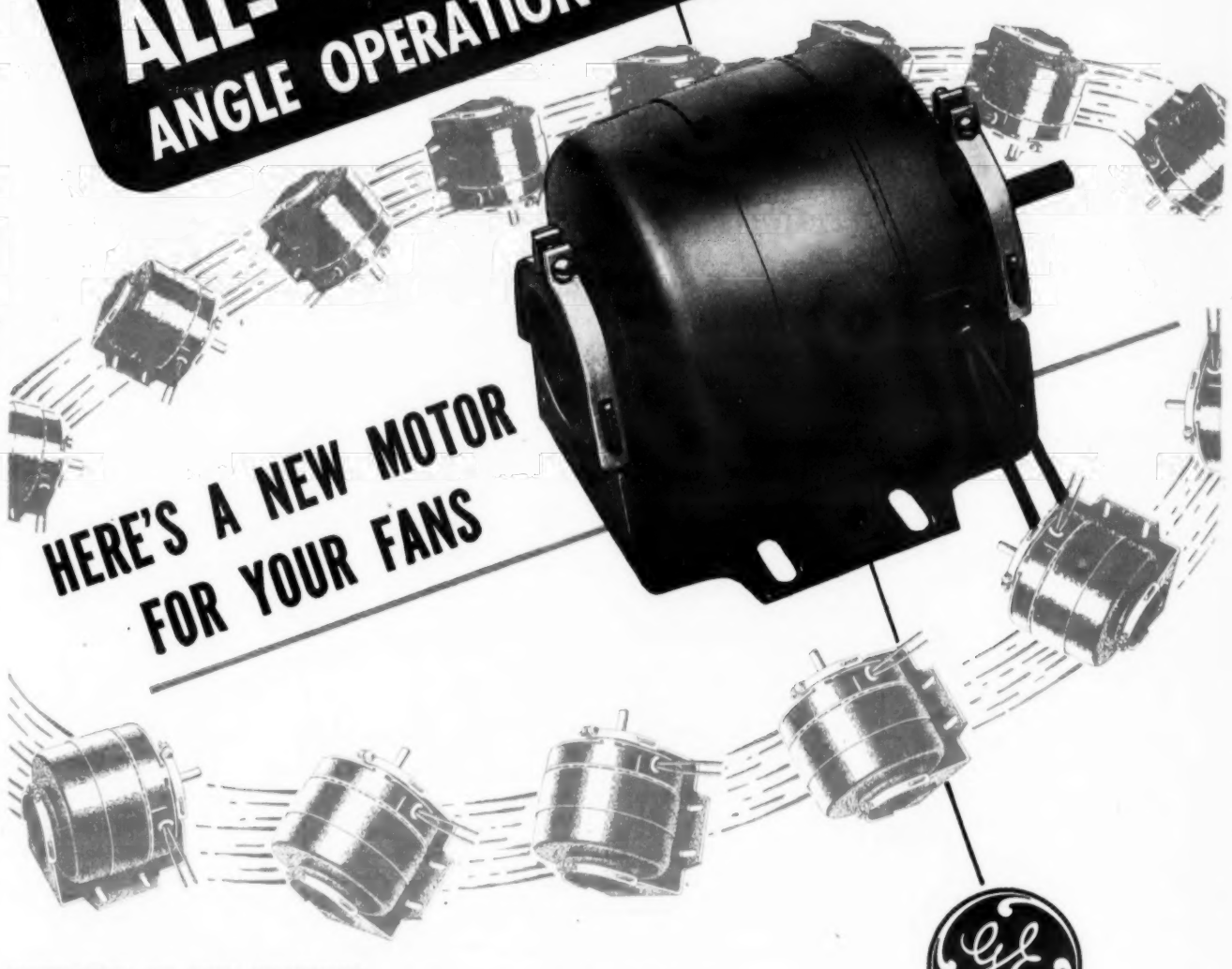

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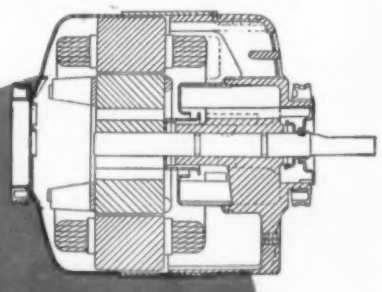


GENERAL ELECTRIC

700-100

# What's New

*When requesting further information on new products, please use "Information Center" form.*

## '51 'De-Frost Automatic' Has Adjustable Cycle

KEY NO. P-1111

ANN ARBOR, Mich. — Improvements incorporated in the 1951 model of the "De-Frost Automatic" refrigerator defroster unit manufactured by Automatic Controls Corp. here include a "Skip Defrost" adjustment and an adjustable defrosting cycle of from one to 10 hours.

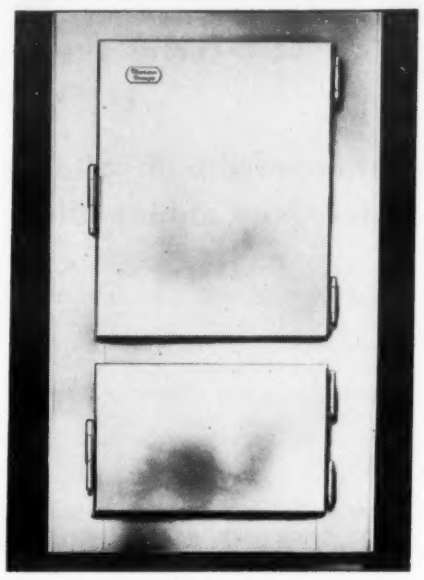
Some refrigerators, because of age and conditions of usage, accumulate more frost than others and it is to make automatic defrosting successful on all that the wide selection of one to 10 hours is provided, the company said. The selection and setting is accomplished by rotating the small dial within the pointer on the timer indicator.

"The 'skip defrost' adjustment is made by rotating the small dial to the 'O' position.

"When the refrigerator requires a longer defrosting cycle than four hours, there is the possibility that ice cream and other similar foods in the freezer compartment may melt," it was pointed out. "The skip defrost is used at such times and when so set the refrigerator will not defrost until it is reset to the proper cycle after the ice cream has been used."

The new model, according to the manufacturer, has an arrangement so that whether the defrosting cycle is set for one or 10 hours, the cycle always ends at 7 a.m. This is considered as most convenient for wiping dry the evaporator and ice cube compartment to prevent the ice trays and foods from freezing to the bottom when refrigeration starts again.

All of the features of the earlier models have been retained.



* * *

## Thermo-Freezer Develops 2-Temp. Refrigerator

KEY NO. P-1112

CHICAGO—A combination refrigerator and freezer, offering 9 cu. ft. of normal temperature storage space and 3½ cu. ft. of -10° F. frozen food storage space is being manufactured by the Thermo-Freezer Co., Inc.

Called the model TFS-13, the unit features automatic defrosting and moist-cold refrigeration.

The interior is in natural aluminum with adjustable stainless steel shelving, covered stainless steel vegetable and fruit storage drawer, and ice cube trays.

Exterior has a stainless steel effect.

## Cocktail Station Features Movable Dispenser

KEY NO. P-1113

PORTLAND, Ore. — A complete cocktail station unit which features a new Carbomax dispensing head mounted on a flexible, free-swinging plastic hose, is being manufactured by the General Dispenser Co. here.

The flexible dispensing head permits the bartender to fill many glasses without lifting them from the bar. A pull of the trigger assures minimum carbonation loss while the head mixes an ounce or a gallon.

The dispensing head was designed especially for the cocktail station unit, called the "Speedbar," by Harry Lewis, carbonic engineer. Any beverage having a syrup or concentrate base may be dispensed.

Of stainless steel construction, the Speedbar is equipped with bottle wells, garnish trays, and ice bins. Each of the 2-gal., sanitary stainless steel containers holds enough syrup for 48 qts. of mix or 750 highballs.

## Gas Torch Has Fewer Parts, Greater Capacity

KEY NO. P-1114

ROCHESTER, N. Y. — Functional design and aluminum construction mark the most sensational gasoline torch improvement in 75 years, according to a report from Otto Bernz Co. New features make torches lighter, more efficient, easier to handle, and safer.

Basic style change is in stronger, flared tank design, resulting in greater fuel capacity, and weight balance at any fuel level, as well as better appearance. Bakelite pistol-grip handle is designed for easier handling, and better balance.

Simplified pump construction reduces number of parts from 16 to eight, minimizing mechanical troubles and repair costs. Easier to insert, pump is perfectly sealed with finger-tight closing. More efficient check valve makes pumping twice easier and faster and eliminates need for lock-down after pumping.

New safety feature is exclusive lock ring on needle valve. Valve cannot screw out or be forced out by pressure, preventing flame from shooting out back of torch.

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# INSIDE DOPE

by GEORGE F. TAUBENECK

(Concluded from Page 1, Column 1)

## Clean Competition

Beaumont's extraordinary cleanliness extends remarkably into its business life. During our visit there we met so many sincere, honest, and sportsmanlike businessmen—including the topnotch dealers and salesmen who are members of "One Foot in the Door Clubs"—that it's difficult to single out any of them to cite as examples.

At random, we present this trio of wonderful fellows:

*Don Cornell* of Standard Brass (parts, commercial refrigeration, air conditioning, heating, appliances). His glamorous auburn-haired wife spends many lonely nights sewing and painting while Don organizes and directs educational meetings for salesmen and refrigeration servicemen, and pours his energies into extra-curricular activities which could benefit his competitors as well as his own company. Don is one of the most unselfish young men "Dope" has ever met. And he's a fellow who's going places—because he pours so much of himself into his work.

*Parker Allen* of the Gulf States Utilities Co. Beloved and trusted by every established appliance dealer and air conditioning contractor in his territory, curly-haired "Pahkah" is the soul of virtue in terms of salubrious trade relationships. His utility merchandises only those appliances which are in the pioneering stage—and hence unprofitable to the vast majority of small dealers. At the same time he works around the clock to help retailers sell more freezers, refrigerators, automatic washers, etc., through ingenious promotional assistance. Every dealer we interviewed agreed that the Gulf States Utilities Co. was "clean" in every respect, and a great help.

*Jerry Brenner,* personable manager of the Coca Cola Co. in the Beaumont area. Most people think that a Coca Cola franchise is a passport to easy riches and the "life of Riley." They should meet Jerry. He has problems and troubles, too: (1) the wholesale price of his product hasn't gone up despite soaring costs; the unavailability of "Coke" during World War II is responsible for a generation of youngsters who learned to like substitutes; the pyramiding costs of delivery service have forced his firm to abandon its former daily intimacy with retailers. Is he downhearted? Is he discouraged? No! He works 16 to 20 hours a day in all sorts of civic activities. In turn, he and *we* hope, Beaumonteers will drink more Coca Cola.

## Boxcars vs. Craps

Outside of the prairies in Illinois, Kansas, and Nebraska, there's no flatter and smoother land in the world than you can see in the neighborhood of Beaumont. How, then, did it get its name: which means (in translation from *parlez-vou Francais*) "beautiful mountain?"

Surprisingly, proud local historians aver that the founders of their eminently hill-less city were a couple of Joes named Smith and Beaumont. They shot craps, so the story goes, to decide whose family name would be immortalized.

Smith lost on the third roll of the dice.

Beaumont is the capital of Jefferson County, the most southeasterly county of the 254 which comprise the great domain of Texas. Embracing the Sabine-Neches industrial area, which contains the cities of Beaumont, Orange, Port Arthur, Port Neches, and Nederland, Jefferson county is a center of strategic importance.

Beaumont itself is located in the northeastern hunk of this county. Via the Neches River, it is only 49 miles from the open water of the Gulf of Mexico. By railroad it is 209 miles south from Shreveport, 278 miles west from New Orleans, 84 miles east from Houston, and 291 miles southeast from Dallas. Via airplane across the Gulf of Mexico, it is approximately 600 miles north of Tampico and 800 miles northwest of Havana.

Its fine port is situated snugly beyond the coastal area of severe equinoctial storms on a safe, 34-ft. channel to the open Gulf—with no dangerous or shifting bars to cross. This channel is navigable during all seasons. It is readily accessible to ships sailing for Mexico, South America, Europe, Australia, Japan, India, and South Africa. Additionally, there's regular coastwise service to all American ports.

Invigorating is the prevailing breeze which wafts from the nearby Gulf of Mexico. The air is practically free from salt, and—thanks to the absence of coal-fires—there's no smoke or soot pollution.

Beaumont is blessed with long, sunny summers and short, mild winters. Cold periods seldom last more than a few days. Snow is practically unknown, and sub-freezing weather is infrequent. When sleet and ice do occur the ground does not freeze below the surface. Fogs roll in now and then but, with rare exceptions, they lift and disappear before 10 a.m.

Temperatures seldom exceed 100° F. The mean annual temperature is 68°, according to the U. S. Weather Bureau, and the average monthly temperature ranges from 54° in January to 83.5° in July. Extreme variations from these averages occur infrequently. Nice climate, eh?

Incidentally, the growing season for vegetables and fruits in this region averages 286 days per year.

Beaumont's favorable climate and desirable location is so healthful that it's citizens enjoy unusual privileges. Extraordinary vigor and zest are infused into all their activities, because they *feel so good.*

## Clean Fun and Clean Recreation

Hunting, fishing, and sailing the year-round—in nearby fresh water lakes and streams, and the Gulf of Mexico—are wonderful sports down here. Nearly everyone indulges, and lives longer as a result. Furthermore, the City Fathers have provided 786 acres of park lands and playgrounds, plus three municipal swimming pools and numerous wading pools for the small fry.

Rotary, Kiwanis, Exchange, Lions, and many other clubs hold weekly meetings during which plans invariably are made for enlarging Beaumont's recreational and rejuvenating facilities.

Four splendid hospitals—Hotel Dieu, St. Therese, Municipal, and Jefferson County—plus 52 churches, embracing practically all denominations, join the businessmen's clubs in providing good fun and good health and The Good Life for rich and poor, extroverts and introverts.

The Tyrrell Public Library serves the Beaumont community with a handsome, centrally-located building in the city itself, and through extension libraries and rural traveling "bookmobiles."

## Growing Major Industries

Current industrial activities in the Beaumont area include shipbuilding and repairs, petroleum production and refining and its numerous by-products, synthetic rubber production and lumber manufacturing, allied machine shops, iron and brass foundries, sheet metal works, steel fabricating plants, welding shops, iron works, and chemical plants.

Rice milling is a thriving industry, and the largest rice packaging plant in the world is located in Beaumont.

Other important industries: acids, chemicals, rubber, paints, pharmaceuticals, preserving and canning factories, milk pasteurizing plants, dairy, and poultry processing.

Petroleum refining, incidentally, is more concentrated in Beaumont than anywhere else in the United States. Refineries, tank farms, oil pipe lines, and loading docks are sardine-packed here by the world's biggest oil companies alongside several of the lustiest independents.

Many factors point toward a long-time continued expansion of Beaumont's industrial future. Among these are: abundance of raw and synthetic materials, an ever-renewed supply of skilled, semi-skilled and *responsible* labor, a deep-water ship channel and intracoastal canals, adequate railway facilities, fine highways, quick and economical contact with local, national, and foreign markets, unlimited supply of natural gas and fuel oil, low electric rates, a mild climate, and unexcelled living conditions

Some of the larger corporations that now contribute to Beaumont's importance in the industrial world include:

Gulf Refining Co.; Magnolia Petroleum Co.; Pure Oil Co.; Texas Co.; Atlantic Refining Co.; Southern Acid and Sulphur Co.; Jefferson Chemical Co.; American Cyanamid Co.; and the DuPont Sabine River Works. Many other chemical plants are located nearby in Port Arthur, Houston, Texas City, and Freeport.

Lumber production and manufacture of wood products rank high on the list of outstanding industries in Jefferson County. Beaumont is the natural milling center and port for a vast commercial forest (10,000,000 acres). Jefferson County's lumber payroll runs close to $1,000,000 monthly.

## Want a Bargain, Mr. Manufacturer?

Quite a few desirable locations are available in and near Beaumont for many sorts of new industries. There are a number of sites located close to or within the city which have railway switches and other conveniences which are suitable for wholesale businesses, warehousing, and small manufacturers.

Attractive locations on the deep-water Neches River channel can be had, too. The larger of these sites have ample frontage for private docks to accommodate any size of vessel—from tugs and barges to the largest ocean-going freighters.

Varying in size from 90 to 2,000 acres, they are served by railroads, paved highways, fuel pipe lines, and all essential utilities.

Among the many businesses for which special opportunities prevail at Beaumont are furniture lines, wooden toys, playground equipment, plastic and chemical plants, pulp and paper mills, naval stores, cotton industries, light handwork women can do, rubber goods, rice processing, tanning and leather products, ceramics, blast furnaces and foundries, and machinery plants of all kinds.

## Natural Resources Are Abundant

Natural gas is Beaumont's outstanding single natural resource. Others: oil, lignite, limestone, graphite, gypsum, sands and clays, salt and sulphur, timber, oyster and clam shells, and muskrat fur.

Rice is the chief money crop in Jefferson and neighboring counties. Corn, sorghum, sugar cane, hay, a wide variety of fruits, cattle and poultry also are sold profitably by farmers and ranchers.

Near Beaumont are vast deposits of clay which can be turned into superior dry-pressed face brick with high heat-resistance. Inviting opportunities for other ceramic industries also are wide-open for exploitation. Tremendous salt dome deposits, and the largest sulphur mines in the world, are nearby. Sulphur ranks immediately behind oil and natural gas in annual value among Texas minerals.

Immeasurable quantities of seashells comprise the basis for cement and fertilizer production, along with road-building and other construction work.

Marine resources include abundant and tasty fish, some of the finest shrimp in the world, crabs and oysters—all of which are susceptible to much greater commercial development.

## Fuel and Power In Abundance

The progressive Gulf States Utilities Co. provides electric service to the Beaumont area from a transmission system which extends from Baton Rouge, La., to Navasota, Tex. An 85,000-kw. steam generating plant near Beaumont supplies this system—augmented by power from a 108,-500-kw. steam plant at Baton Rouge. Feeding into these two main plants are stations at Orange, at Port Arthur, and an interconnection with Louisiana Power & Light Co. at Sorrento, La.

This excellent utility has a fine record of furnishing uninterrupted service. Its managers pioneered in oil field and oil pipeline electrification, and they deserve their reputation for fairness and progressiveness. Home offices are maintained at Beaumont and Baton Rouge, with division offices in Lake Charles, Port Arthur, and Navasota.

Natural gas is available from tremendous resources. Within a radius of 50 miles from Beaumont there are 17 major natural gas fields, and more than 1,000 wells in approximately 100 different fields—including the famous Spindletop. In addition, existing connections with other gas fields in Texas and Louisiana furnish almost unlimited supplementary supplies.

Fuel oil of high calorific value for such varied usages as heat treating, forging, oven-drying, kiln drying, melting, annealing, vulcanizing, and (in paper and pulp mills) cooking and drying, are available in any required amounts.

## Ship It Any Way You Like

Moreover, an industrial plant located in Beaumont can take full advantage of the cheapest of all modes of transportation—water freighting—for its bulky and heavy raw materials or finished products. In addition to ocean-going shipping, barge transportation plays a vital role. An intracoastal canal hooks up with inland waterways—which include the Mississippi, Missouri, Ohio, and Tennessee rivers, and accessible minor seaports.

Railwise, Beaumont boasts four important trunk line railways: Kansas City Southern, Missouri-Pacific, Santa Fe, and the Southern Pacific.

A carload shipment moving out of Beaumont will arrive quickly at any destination served by this quartet of trunk lines. The Kansas City Southern R. R. has a nethermost terminus at Port Arthur, zips northward to Kansas City (through a rich agricultural region) and pillows eventually into the roaring traffic turntables of St. Louis, Indianapolis, and Chicago. The Missouri-Pacific touches Brownsville, Laredo, and El Paso, then whips around to New Orleans, St. Louis, and Kansas City. Still running rapidly in all directions, it swings westward to Denver, Salt Lake City, and the Pacific Coast. The Santa Fe has lines radiating from Galveston to Fort Worth, Dallas, and Kansas City, and from Oakdale, La., to West Coast and connections with the East. The Southern Pacific also radiates in practically all directions.

Confused? So are we. The point is: Beaumont railroaders can *deliver the goods.*

Also, Beaumont can brag about a marvelous paved highway system which ribbons outward to almost everywhere. Transcontinental bus lines on these highways provide excellent accommodations and fast, dependable freight service at low rates.

Airwise, Beaumont is on several direct routes; and connects through feeder lines to all the principle flying systems of the nation and the world. It isn't always *easy* to get there by plane from the East, but it can be done.

## Wanna Buy a Ranch?

Farming and ranching potentialities are immense for back-to-the-soil followers of Thoreau. In addition to cattle, rice, fruits, and "truck produce," a number of rare and exotic crops, such as tung nuts, hemp, and perilla, show great promise.

These plantings, when developed further by daring experimenters, will contribute markedly to the Beaumont area's expanding program of rural diversification.

So rapidly is this typical Texas city growing and enlarging (in almost every conceivable direction) that it seems like an ideal spot for ambitious men and women of every type and description, and with every variety of experience and knowledge. Whether or not these newcomers "make their fortune" quickly, they can be sure of one thing:

*They'll love living in Beaumont.*


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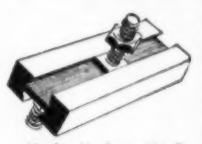

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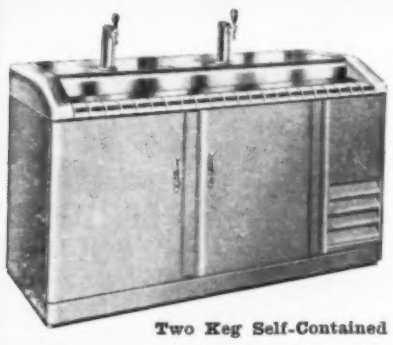

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# Refrigeration Problems
## And Their Solution

*By Paul Reed*

**For Service and Installation Engineers**

Paul Reed

## Air and Humidity (7)

### OUR CHART SHOWS SPECIFIC AND PERCENTAGE HUMIDITIES

We will use specific and percentage humidities on our chart, because the Carrier chart uses them instead of absolute and relative humidities, and we are basing our study on the Carrier chart.

So we will still use the bottom horizontal scale of temperatures, but we will provide another vertical scale of "Grains of Moisture per Pound of Dry Air." It would be more correct to say "Grains of Moisture in the Space Occupied by One Pound of Dry Air and Saturated Water Vapor," but as long as we understand what we are talking about, we can use the shorter, although somewhat misleading description.

At this point we must point out an error in the Partial Table in the Oct. 9 issue. Column 10 was headed "Grains per cu. ft." It should have been "Grains per lb. of dry air," for this column shows specific humidity.

If we now plot a curve of temperature against the values in Column 10, this curve will show specific humidities, and we can take off it the specific humidity for any temperature from 20 to 110°.

Moreover, it is the curve of 100% specific humidity, so it is also the curve of saturation, for if a space is saturated, it contains its specific humidity.

At 20° the specific humidity is 15.01 grains; at 90%, percentage humidity is .90 x 15.01 or 13.51 grains. At 25° the specific humidity is 19.04; at 90%, the moisture content is .90 x 19.04 or 17.14. So we can lay out another series of dots based on 90% of the specific humidity, and draw our curve through them, and this will show 90% percentage humidity.

We can do the same thing for 80% percentage humidity by multiplying the specific humidities by .80; also, for 70%, 60%, etc.

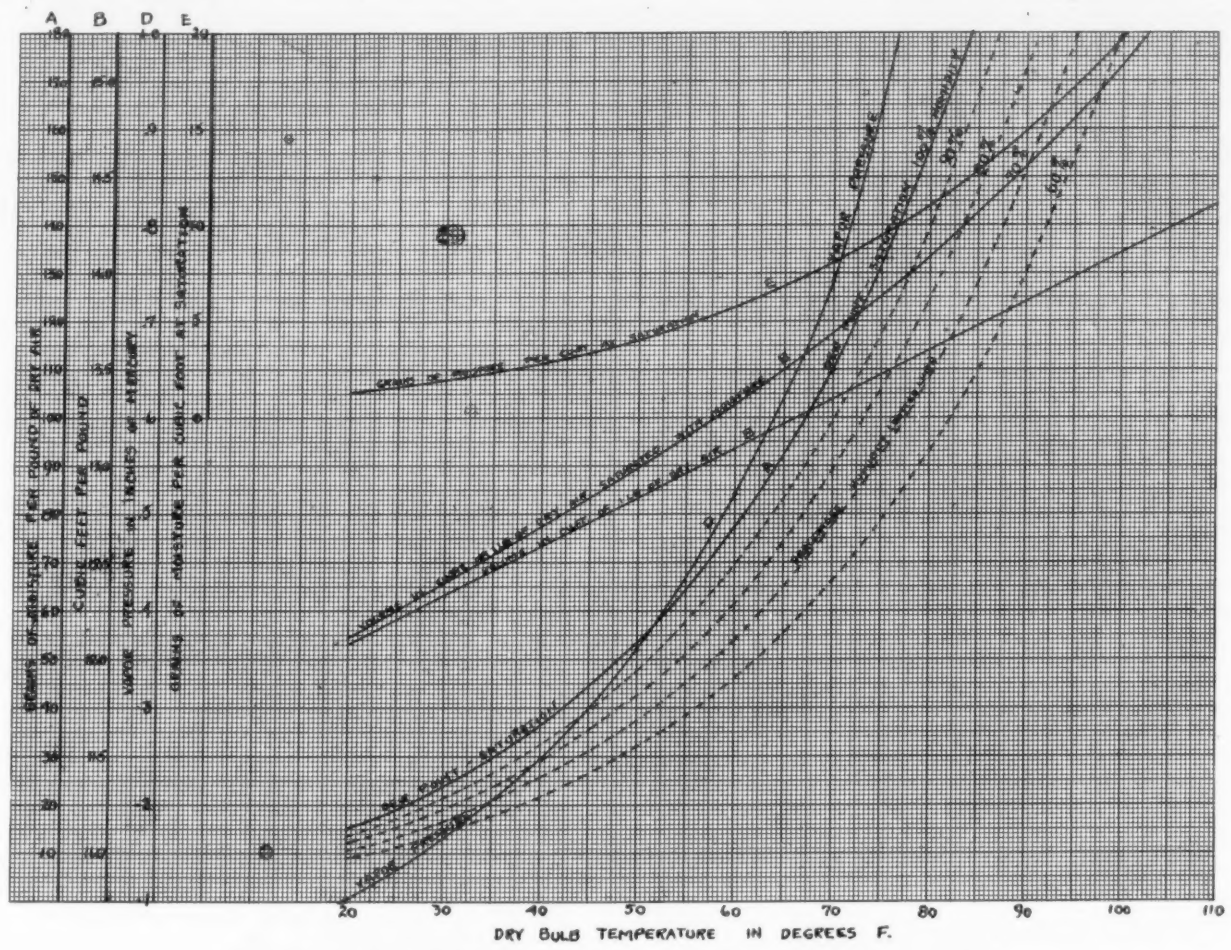



Fig. 2—Temperature-pressure chart with some additional curves.

### DEWPOINT CURVE

Our specific humidity curve is also the saturation curve and the 100% percentage humidity curve; also it is a dewpoint curve, for saturation, 100% humidity and dewpoint, all mean the same thing.

To illustrate the use of these curves, let us take an example.

We have a dry bulb temperature of 70° and a percentage humidity of 60%. These two lines meet on the horizontal line of 65 grains of moisture per pound of dry air. This horizontal line crosses the dewpoint line at 55°; so the dewpoint temperature is 55° if the dry bulb temperature is 70° and the precentage humidity is 60%.

However, we cannot read the vapor pressure off this horizontal line. The vapor pressure always corresponds to the *dewpoint;* so after we locate the dewpoint temperature at 55°, we go upward on the vertical 55° line until it crosses the vapor pressure scale and we find that the vapor pressure is .435 inches of mercury.

### DRY AND SATURATED AIR VOLUMES

We can put other curves on this chart. By providing another vertical scale on the left marked in Cubic Feet per Pound we can show a curve for Volume in "Cubic Feet of One Pound of Dry Air" and another curve for Volume in "Cubic Feet of One Pound of Dry Air Saturated with Moisture," and read their values on the Cubic Feet per Pound Scale.

The Cubic Feet of Dry Air values have nothing to do with moisture so we can read them directly from the dry bulb. For example, for a 60° dry bulb we merely follow the 60° vertical line up to the curve, then to the left on the horizontal line, and read 13.1 Cubic Feet Per Pound of dry air at 60°.

The Cubic Feet of One Pound of Dry Air Saturated with Moisture, involves water vapor, so it must be read from the dewpoint temperature.

For example; at 81° dry bulb temperature and 60% percentage humidity, the dewpoint temperature is 65°. Then follow upward on the 65° vertical line to the curve, and it crosses at the horizontal line leading to 13.5 cu. ft. per pound.

### ABSOLUTE HUMIDITY CURVE

A curve can be put on showing Absolute Humidity, or Grains of Moisture per Cubic Foot of Saturated Air, but another vertical scale must be provided. Absolute humidity is a function of the dewpoint temperature, so first determine the dewpoint temperature, then follow it upward to the curve and to the left horizontally to the corresponding scale.

For example, at 81° dry bulb, 60% percentage humidity and 65 dewpoint, the absolute humidity is read as about 6¾ grains of moisture per cubic foot of saturated air. (Actually, it is 6.84 grains).

### HEAT IN AIR-WATER VAPOR MIXTURES

So far in this series on air and water vapor, we have discussed only volumes, densities, and amounts of air and water vapor. We have intentionally avoided all discussion of the heat content of air and water vapor mixtures.

In some problems, such as those involving humidity in refrigerators and walk-in coolers, the absolute humidity, the relative humidity, and the dewpoint are of more interest than the heat content.

However, in some commercial refrigeration applications, the amount of heat involved in moisture changes, is of great importance, and in air conditioning problems it is frequently the most important part of the load.

In any case, it should be understood, so that it can be taken into consideration and provided for if necessary. Next week we will discuss the factors affecting the heat content of air and water vapor mixtures.

## Service, Supply Co. Reopens

GULFPORT, Miss. — The Gulf Coast Service and Supply Co., 1314 27th Ave., appliance dealership, has been purchased by J. P. "Pat" Campbell, and reopened recently as the Campbell Co., Inc.

## Resistoflex Refrigerant Hose Gets Underwriters OK

BELLEVILLE, N. J. — Flexible, non-metallic refrigerant hose assemblies made by Resistoflex Corp., here, now carry the stamp of Underwriters' Laboratories re-examination service on four sizes, the company announced recently.

The manufacturer reports that, on the basis of tests, refrigerant assemblies with ¼, ⅜, ½, and ⅝-in. inside diameters have been approved for factory installations in Class E systems where "Freon-12" or "Freon-22" is used as the refrigerant.

Because flexibility of non-metallic construction is claimed to absorb the vibrational and bending stresses which fatigue metal hose, the manufacturer recommends these assemblies not only where vibration is experienced, but also where lines are subjected to continual flexing.

It is stated that because of the compar refrigerant tube, which is reinforced by a carcass of integrally bonded braids and a synthetic cover, Resistoflex assemblies are impervious not only to "Freons" but also to methyl chloride, and are unaffected by compressor oil.

Lines are offered as complete assemblies with gas-tight fittings.

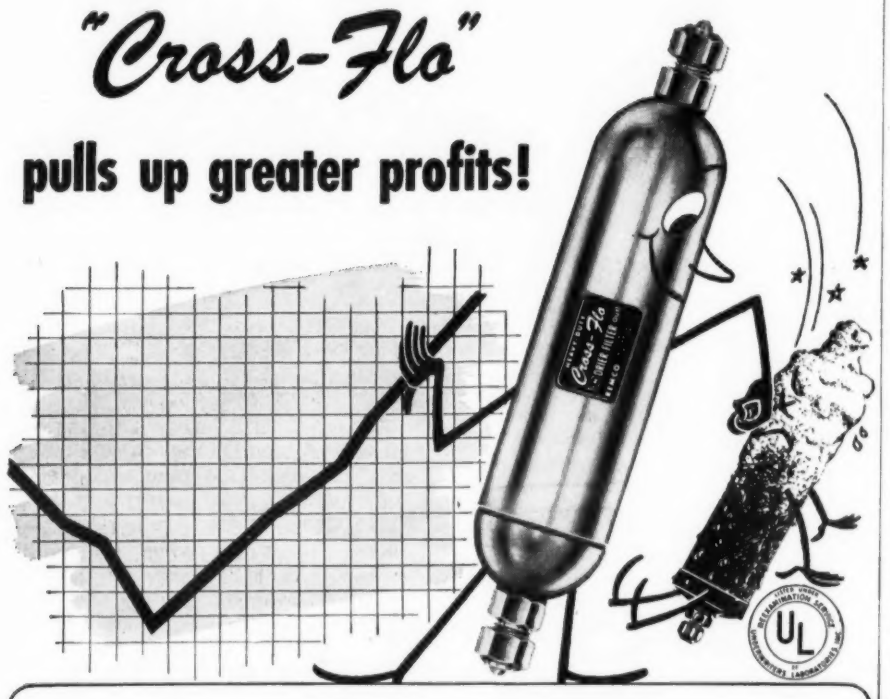
## New Appliance Dept. Opens

WATERTOWN, N. Y.—A new appliance department is being installed in the Globe department store here.

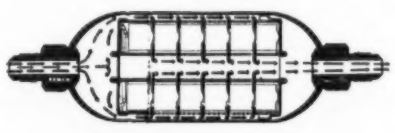
By eliminating clogged driers and expansion valve freeze-ups . . .

"Cross-Flo"

pulls up greater profits!




Here's the Reason—



Yes . . . you can eliminate all losses from breakdowns and definitely count on greater profits when you use these Heavy-Duty "Cross-Flo" Drier-Filters. For now, with Molded DuCal Drierite as the drying agent, you get the highest-possible efficiency even at liquid temperatures up to 150°. The secret is in our exclusive "Cross-Flo" construction, wherein the refrigerant flows across and between the self-spacing discs of Molded DuCal Drierite—which are positively guaranteed to remove and retain moisture even at high liquid temperatures and down to extremely low dew points. Thus, you can count on prevention of refrigerant control freeze-ups even in the lowest temperature installations.

Cross-Flo capacities: 1, 2, 3, & 5 tons.
Connection sizes: ¼" thru ¾" SAE; ⅜" O.D. SWT.

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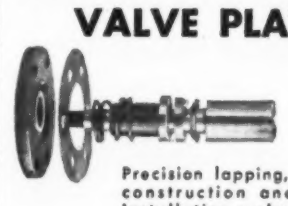
EXPORT DEPARTMENT: Melchior, Armstrong, Dessau—Ridgefield, N. J.

REMCO
INCORPORATED
ZELIENOPLE, PENNSYLVANIA

Servicemen!

FOR MAXIMUM EFFICIENCY USE CHICAGO SEALS AND VALVE PLATES



Precision lapping, superior construction and simple installation make Chicago seals ideal for replacement.

PERFECT BALANCE
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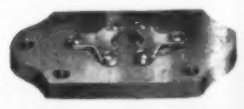

Only Chicago valve plates have replaceable seats. Replacements for over 340 compressor models.

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A Bottle Cooler That Means Business . . .

UNITED DRY KOOL BOTTLE COOLER

A proven profit-maker available in BROWN DULUX or STAINLESS STEEL in 4', 6', 8' and 10' lengths—remote or plug-in. United's original forced air system insures maximum air circulation and faster cooling with large capacity blowers under each door and coils that are up and out of the way.

√ Streamline heavily insulated all steel cabinets.
√ Stainless steel Lift-A-Way doors with roller bearings—"No busted fingers."
√ Flush bottle decappers.
√ More capacity per cubic foot.

United
REFRIGERATOR COMPANY
LOCUST & WALNUT ST.
HUDSON, WISC.

"SELL United AND YOU SELL THE FINEST"

• DIRECT DRAW SYSTEMS • BOTTLE COOLERS

BANK IN KALAMAZOO is cooled by three Typhoon packaged air conditioners. Ten-ton unit at left cools one row of cages while 5-ton unit at far right takes care of other row of cages. Eight-ton unit in attic supplies cooling for upstairs offices.

SUPERMARKET IN KALAMAZOO has a 10-ton Typhoon unit right out in the center of the store. This market is identical to Owner Ted Maury's other local supermarket, where he also uses a 10-ton Typhoon packaged air conditioner in the same location.

# Plaudits for Packaged Air Conditioners

## *Bank President Sees Units as Big Help In Promoting Modernization; Supermarket Operator Says Cooling Necessary To Meet Competition*

KALAMAZOO, Mich. — Packaged air conditioners are now providing a comfortable atmosphere for patrons and employes of Kalamazoo's State Bank and Ted Maury's two new local supermarkets.

The units—five in all—were installed recently by Service Appliance Co. here. The firm, headed by Henry Schippers, handles Typhoon equipment.

Three air conditioners were put in the bank as part of a modernization program. The institution, which employs about 50 people, is Kalamazoo's largest and oldest bank for industrial loans.

Two of the units are located on the main floor. A 5-ton conditioner was placed in a corner near the busiest section of bank cages. Near the other row of cages is a 10-ton unit which cools these cages and the office of the bank's president.

Another Typhoon unit, with a capacity of eight tons, was installed in the attic to supply the upstairs offices. This floor includes a general collector's office, a small office, the directors' room, and the telephone operator's booth.

Expressing approval of the installation, Charles J. Monroe, president of the bank, declared: "It's not only because of the comfort. A bank is supposed to reflect progress—and we can encourage businessmen to modernize with much more telling effect when we have air conditioning as a feature of our own modernizing."

Ted Maury's two supermarkets have been identically air conditioned with Typhoon 10-ton units. In both cases, the units were placed in the center of the store.

The markets are equipped with Federal self-serve equipment which was also installed by Service Appliance Co. Shelving is constructed of unusually fine lumber to enhance the attractiveness of the stores.

"I can safely say after my long experience with supermarket managing," commented Maury, who was an A. & P. manager for 21 years, "that air conditioning is essential to successful supermarket operation.

"Without it, we cannot hope to compete with air conditioned stores, since shoppers must spend considerable time in the store and therefore demand the utmost in comfort.

"I have also found that with the installation of air conditioning, shoppers invariably tend to remain in the store longer, to buy more, and to be more patient with the inevitable check-out lines and crowded conditions during peak hours."

## Norby Represents McQuay In Western Half of Wash.

MINNEAPOLIS — Appointment of Karl H. Norby as air conditioning and heating representative of McQuay, Inc., in the western half of the state of Washington has been announced by R. J. Resch, president of the company.

Karl H. Norby

The son of a plumbing and heating contractor, Norby has been actively interested in the business since 1935.

He will make his headquarters in Seattle.


"KNOW HOW"
MAKE CTI GRADUATES THE MEN FOR THE BETTER JOBS
PRACTICAL SHOP TRAINING IN
AIR CONDITIONING — REFRIGERATION
FROZEN FOODS LOCKERS
ELECTRICITY MAJOR APPLIANCES
SERVICE, MAINTENANCE & INSTALLATION
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Training in the heart of the South . . .



The Name:
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2732 N. Ashland Ave.
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The Products:
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*Ask for catalog on your letterhead*
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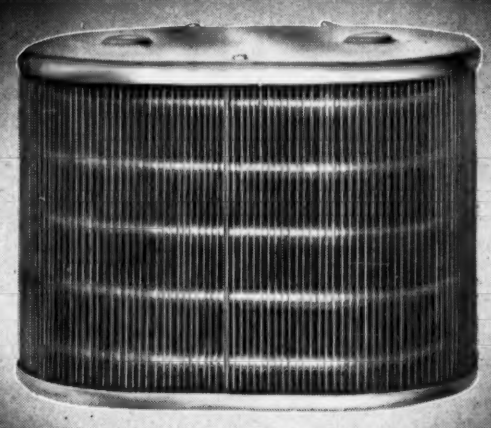
BETZ RADAIRE



*World's Lowest Priced Cooling Unit*

PLUS — — A RADICALLY NEW DESIGN PROVIDING MAXIMUM HEAT TRANSFER.
NOTE SIZE — — RADAIRE HAS NO EQUAL FOR DIRECT DRAWS, BACK BARS, SMALL REACHINS, ETC.

| MODEL NO. | BTU AT 1° TD | CFM | SURFACE SQ. FT. | DIMENSIONS H | W | D |
|---|---|---|---|---|---|---|
| 85-U | 85 | 190 | 17.95 | 8" | 11 3/8" | 8 3/4" |
| 115-U | 115 | 250 | 23.37 | 8" | 17 3/8" | 8 3/4" |
| 150-U | 150 | 310 | 31.25 | 9 1/2" | 17 1/2" | 10 3/8" |

See Them at Your Wholesalers
BETZ CORPORATION
HAMMOND • INDIANA



# V-Belt Service

is as easy as 1 2 3

PICKING the right replacement belt the first time—every time—is now as simple as 1-2-3! That means no more confusion in V-Belt service for refrigeration and air conditioning units.

Anyone can do it—pick the right belt without even taking the present belt off the machine. You can operate the Beltmeter through any convenient opening in the housing. Or turn to Goodyear's Belt Replacement Catalog—clear, concise information listing the belt needs of every commercial refrigeration unit.

And the "ABC Book" shown is crammed from cover to cover with handy easily-followed information on V-drives. It's yours for the asking simply by sending in the coupon below. Don't be without this handy addition to your kit a day longer.

And remember—Goodyear has a complete range of quality V-Belts for special and standard sizes.

*We think you'll like "THE GREATEST STORY EVER TOLD"—Every Sunday—ABC Network*

THE GOODYEAR TIRE & RUBBER COMPANY, INC.
Dept. 742-C, Akron 16, Ohio

*Please send me my FREE COPY of your "ABC Book."*

Firm Name _____
My Name _____
Street Address _____
City _____ Zone ____ State _____ (A)

1

**Measure with the BELTMETER** — *Goodyear's exclusive new compact device that lets you measure any belt length and cross-section without even taking it off the machine. It's "tool-kit designed" to drop right in your bag—gives you the right circumference every time.*

2

**Pick the belt you need** *quickly and easily because the new "Space-Miser" packaging of Goodyear belts and their simplified marking eliminates complicated listings, hunting through codes, and space-wasting storage. Belts are easier to handle—easier to select.*

3

**Simplified drive design, too.** *Goodyear's exclusive "ABC of Simple V-Belt Drives"—the only book of its kind—lets you determine at a glance the changes in pulley sizes and belt lengths needed to meet changes in compressor BTU output—determine needed pulley sizes on air conditioning units, etc. FREE for the asking.*

GOODYEAR
THE GREATEST NAME IN RUBBER

# Servicing the New Philco Room Air Conditioners

## PART 4 *Step-by-Step Procedure for Replacing Fans, Motors*

### REPLACING CONDENSER FAN OR SLINGER WHEEL—MODEL 50-F

It will first be necessary to remove the refrigerant unit. After the refrigerant unit is removed, proceed as follows:

1. Loosen the setscrew on the fan hub, and slide the fan toward the motor as far as it will go.
2. Supporting the shaft, drive out the pin in the slinger-wheel hub, using a drive pin and a small tack hammer.
3. With a candle, cigarette lighter, or small hand torch, heat the slinger-wheel hub for about 30 seconds, then tap the slinger wheel off the shaft.
4. Slide the condenser fan off the shaft.
5. Install the new fan or slinger wheel by reversing the procedure above.

### REPLACING CONDENSER FAN OR SLINGER WHEEL—MODEL 75-F

1. Remove the cabinet and take the air conditioner out of the window.
2. Remove the top-rear and left side panels.
3. Loosen the setscrew on the fan hub, and slide the fan toward the motor as far as it will go.
4. Loosen the motor on its mounting base, and slide the motor toward the front of the unit.
5. Drive out the pin in the slinger-wheel hub, using a drive pin and a small tack hammer.
6. With a candle, cigarette lighter, or a small hand torch, heat the slinger-wheel hub for about 30 seconds, then tap the slinger wheel off the shaft.
7. Slide the condenser fan off the shaft.
8. Install the new fan or slinger wheel by reversing the procedure above.

### REPLACING CONDENSER FAN—MODELS 75-FC AND 100-FC

1. Take out the fan motor as explained under "Replacing Fan Motor—Models 75-FC and 100-FC."
2. Take off the fan shaft pulley.
3. Remove the bearing pillow-block support by taking out two mounting bolts.
4. Loosen the shaft collar setscrew.
5. Slide the collar, bearing pillow block, and pillow-block support to the left, off the fan shaft.
6. Remove the condenser fan scroll air-inlet ring.
7. Loosen the condenser fan setscrew, and slide the fan out of the scroll and off the shaft.
8. Install the new condenser fan by reversing the procedure above.

### REPLACING EVAPORATOR FAN, MODEL 50-F

It will first be necessary to remove the refrigerant unit. After the refrigerant unit is removed, proceed as follows:

1. Take off the evaporator fan scroll cutoff by removing the three screws that secure it.
2. Loosen the evaporator fan on the motor shaft.
3. Loosen the motor on its mounting base, and slide the motor toward the rear of the unit.
4. Slide the fan off the shaft, and lift it out.
5. Install the new evaporator fan by reversing the procedure above.

### REPLACING EVAPORATOR FAN, MODEL 75-F

1. Remove the cabinet and take the air conditioner out of the window.
2. Remove the top-rear panel and the evaporator plenum cover.
3. Remove the three sheet-metal screws and take out the fan scroll cutoff.
4. Remove the condenser fan slinger wheel.
5. Loosen the evaporator fan on the motor shaft.
6. Loosen the motor from its mounting base, and slide the motor toward the condenser.
7. Slide the fan off the shaft, and lift it out.
8. Install the new evaporator fan by reversing the procedure above.

### REPLACING EVAPORATOR FAN, MODELS 75-FC AND 100-FC

1. Remove the filter.
2. Take off the evaporator air-inlet ring located directly beneath the filter.
3. Loosen the evaporator fan setscrew.
4. Slide the evaporator fan off the shaft and out of the air conditioner.
5. Install the new evaporator fan by reversing the procedure above.

### REPLACING EVAPORATOR FAN, MODELS 150-FCW AND 200-FCW

1. Remove the front and top cabinet panel.
2. Take off the evaporator fan scroll inlet ring.
3. Loosen the evaporator fan setscrew, and lift the fan out of the scroll.
4. Install the new fan by reversing the procedure above.

### REPLACING FAN MOTOR—MODEL 50-F

1. Remove the fans as described under "Replacing Condenser Fan or Slinger Wheel—Model 50-F," and "Replacing Evaporator Fan—Model 50-F."
2. Disconnect the motor leads at the power switch.
3. Loosen the motor from its mounting base, and remove it from the chassis.
4. Install the new motor, oil it, and replace the fans.
5. Hand-test for fan clearance.
6. Test for motor operation.
7. Replace the panels and cabinet, and install the air conditioner in the window.

### REPLACING FAN MOTOR—MODEL 75-F

1. Remove the fans as described under "Replacing Condenser Fan or Slinger Wheel—Model 75-F," and "Replacing Evaporator fan—Model 75-F."
2. Disconnect the motor leads.
3. Loosen the motor from its mounting base and lift the motor out, tilting it so that the extended ends of the shaft clear the evaporator and condenser partitions.
4. Install the new motor, oil it, and replace the fans.
5. Hand-test for fan clearance.
6. Test for motor operation.
7. Replace the panels and cabinet, and install the air conditioner in the window.

### REPLACING FAN MOTOR—MODELS 75-FC AND 100-FC

1. Remove the cabinet and take off the lower front panel.
2. Disconnect the fan motor leads from the motor terminal box, loosen the strain-relief connector, and pull the fan motor leads through.
3. Remove the four motor mounting bolts.
4. Remove the belt from the pulley, and lift out the motor.
5. Remove the pulley from the old motor, and install it on the new motor.
6. Oil the new motor, and install it by reversing the procedure above.

### REPLACING FAN MOTOR—MODELS 150-FCW AND 200-FCW

1. Remove the front and top cabinet panels.
2. Disconnect the fan motor leads from the motor terminal box, loosen the strain-relief connector, and pull the fan motor leads through.
3. Remove the four motor mounting bolts.
4. Remove the belt from the pulley, and lift out the motor.
5. Remove the pulley from the old motor, and install it on the new motor.
6. Oil the new motor, and install it by reversing the procedure above.

*(To Be Continued)*

**EDITOR'S NOTE: Summer may be gone in some parts of the country, but that doesn't make much difference to many window and room air conditioners, because the users are apt to turn them on almost any day in the year for ventilation if not for cooling. Thus the accompanying data on servicing the 1950 line of Philco air conditioners is timely. (Besides, it can be clipped and filed for future reference.)**

**This is the fourth instalment in the series that is being published by AIR CONDITIONING & REFRIGERATION NEWS with permission of Philco Corp. and cooperation of Ed. Barth, manager of Philco refrigeration service.**

## Detroit Distributor Host To RSES Chapter on Nov. 10

DETROIT—Appliance Wholesalers, Inc., distributor for Gibson and other appliance lines, will be host for the November meeting of the Greater Detroit RSES chapter at 7:30 p.m. Friday, Nov. 10, when members of the sales organization will present a four-act play dramatizing the right and wrong ways of servicing and selling. Appliance Wholesalers is at 1749 W. Lafayette.

*Your money goes farther*
*. . . your work goes faster!*

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TWO GREAT VALVE-IN-HEAD ENGINES: the 105-h.p. Loadmaster or the improved 92-h.p. Thriftmaster—to give you greater power per gallon, lower cost per load • POWER-JET CARBURETOR—smoother, quicker acceleration response • DIAPHRAGM SPRING CLUTCH for easy-action engagement • SYNCHRO-MESH TRANSMISSIONS for fast, smooth shifting • HYPOID REAR AXLES—for dependability and long life • DOUBLE-ARTICULATED BRAKES—for complete driver control • WIDE-BASE WHEELS for increased tire mileage • BALL-TYPE STEERING for easier handling • UNIT-DESIGN BODIES—for greater load protection • ADVANCE-DESIGN STYLING—for increased comfort and modern appearance.

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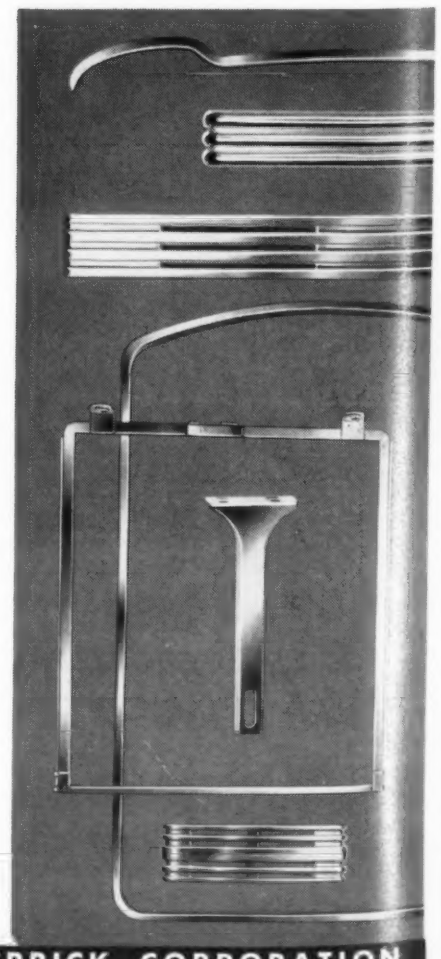

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# Conference Program, Exhibitors--

*(Concluded from Page 1, Column 2)*

's the most educational.

Three prizes will be awarded for he best entries and a plaque will ›e given the manufacturer whose ›xhibit is voted to provide the greatest benefits. The two runners-ıp will be awarded ribbons.

Manufacturers exhibiting at the ›onference are:

Acme Industries, Inc.; Airserco Mfg. ›o.; Alco Valve Co.; Aminco Refrigeration ›roducts Co.; Ansul Chemical Co.; Auto-ıatic Products Co.

Brunner Mfg. Co.; Bundy Tubing Co.; Bush Mfg. Co.

Carrier Corp.; Copeland Refrigeration ›orp.; Curtis Refrigerating Machine divi-ion, Curtis Mfg. Co.

Davison Chemical Corp.; Dayton Rubber ›o.; Dean Products, Inc.; Detroit Lubri-ıtor Co.; Drayer-Hanson, Inc.

Ebco Mfg. Co.; Electric Auto-Lite Co.; ›rigidaire Sales Corp.; Fogel Refrigera-ır Co.

Gates Rubber Co.; General Controls Co.; ›eneral Electric Co., Air Conditioning ›partment.

Halstead & Mitchell; Handy and Har-ıan; Heat-X-Changer Co., Inc.; Henry Valve Co.; Imperial Brass Mfg Co.; Jarrow Products.

Kerotest Mfg. Co.; Kold Hold Mfg. Co.; Kramer Trenton Co.

Larkin Coils, Inc.; Linde Air Products Co.; Lehigh Mfg. Co.; Loudon Mfg. & Sales, Inc.; Lynch Corp.

Marsh, Jas. P., Corp.; McQuay, Inc.; Mueller Brass Co.; Nash-Kelvinator Corp.; Pacific Lumber Co.; Paragon Electric Co.; Penn Electric Switch Co.; Philco Corp.

Ranco, Inc.; Redmond Co. of California, Inc.; Refrigeration Engineering, Inc.; Remco, Inc.; Resistoflex Corp.

Servel, Inc.; Sherer-Gillett Co.; Sporlan Valve Co.; Swift Mfg Co., Inc.; Superior Valve & Fittings Co.

Tecumseh Products Co.; Tyler Fixture Corp.; Universal Cooler division, Newport Steel Corp.; Virginia Smelting Co.; Wagner Electric Corp.; Wolverine Tube division, Calumet & Hecla Consolidated Copper Co.; White-Rodgers Electric Co.

The RSES convention program, including conference talks and exhibit hours, follows:

**THURSDAY, NOV. 16**

8 a.m.—Registration—Wilton hotel.

10 a.m.—California Assn. executive board meeting—Wilton hotel.

12 noon—Registration — Municipal Auditorium.

1 p.m.—RSES general business meeting—Concert Hall, Municipal Auditorium.

Convention Call to Order—Harry J. Dike, Jr., president of CARSES.

Introduction of international officers and convention committeemen.

Greetings from the Refrigeration Equipment Manufacturers Assn.—R. H. Israel, president.

Greetings from the Refrigeration Equipment Wholesalers Assn.—Merle Stutzman, director.

Greetings from the Refrigeration and Air Conditioning Contractors Assn.—R. W. Noll, president.

RSES president's address—Charles C. E. Harris.

Report of international secretary—H. T. McDermott.

Report of international treasurer—M. R. Hanks.

Report of international committees.

Appointment of convention committees—nominating, resolutions, auditing, credentials.

4 p.m.—The new ASA B9.1 Safety Code for Mechanical Refrigeration. Cyrus K. Miller.

5 p.m.—Adjournment.

7 p.m.—Buffet supper and fun festival.

**FRIDAY, NOV. 17**

8 a.m.—Registration—Wilton hotel.

9 a.m.—Registration — Municipal Auditorium. Questions and answers.

10 a.m.—Approved by Underwriters, movie and talk. H. G. Ufer, western superintendent, Underwriters Laboratories, Inc.

11 a.m.—Trends in Education for the Refrigeration Field—Karl O. Werwath, president, National Council of Technical Schools and president Milwaukee School of Engineering.

12 noon—Safety in Refrigeration Work—George J. Schuld, Sr., chairman international RSES safety committee.

1 p.m.—Official opening of 1950 REMA-RSES West Coast Refrigeration and Air Conditioning Exhibition. Exhibits close 5 p.m. until 7 p.m.

3 p.m.—Basic Compressor Design—Open and Closed Types, John Zant, district manager, Copeland Refrigeration Corp.

4 p.m.—Removing Moisture from Refrigerating Systems in the Field—F. Y. Carter, chief sales engineer, Detroit Lubricator Co.

7 to 10 p.m.—Exhibits open.

**SATURDAY, NOV. 18**

8 a.m.—Registration—Wilton hotel.

9 a.m.—Registration — Municipal Auditorium.

9 a.m.—Questions and answers.

10 a.m. to 5 p.m.—Exhibits open.

10 a.m.—Concluding business session—unfinished business, committee reports, election of officers, new business.

3 p.m.—New Types and Problems Involved on Open Self-Service Refrigeration Equipment—J. H. Spence, service manager, Hussmann Refrigeration, Inc.

4 p.m.—Selection and Adjustment of Controls for Small Air Conditioning Systems—D. D. Wile, chief engineer, Refrigeration Engineering, Inc.

7 p.m.—Annual RSES banquet—Wilton hotel.

9 p.m.—Entertainment and dance—Wilton hotel.

**SUNDAY, NOV. 19**

8 a.m.—Registration.

9 a.m.—Questions and answers.

10 a.m.—Automatic Hot Gas Defrost Systems—S. C. Segal, chief engineer, Kramer Trenton Co.

10 a.m.—Two-Way Radio for Service Trucks, demonstration of operation and use—Gene Goebel, sales manager, communications division, Motorola, Inc.

12 noon—Adjournment.

12 noon to 4 p.m.—Exhibits open.

1 p.m.—Meeting—International officers and directors.


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WITH GRAD-U-MATIC AIR CONDITIONING

Reach-In Refrigerators
Pass-Thru Refrigerators
Dairy-Delicatessen Cases
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Florist Refrigerators

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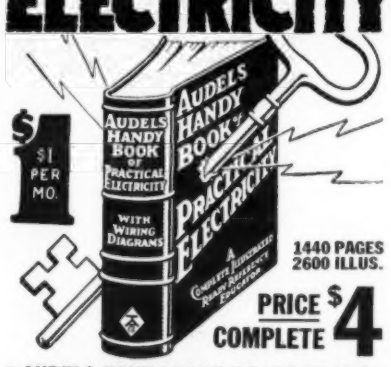
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# Government Contracts

## PROCUREMENT INFORMATION

Individuals and companies who are interested in bidding may obtain complete bid sets containing more detailed data including specification, packing, delivery, and other requirements by a written request to the issuing office. Such requests should cite the description, applicable invitation number, or other reference and the opening date, etc.

### DEPARTMENT OF DEFENSE

It is not necessary to refer solely to the issuing office for additional data on a bid invitation issued by any of the following ordnance districts, arsenals or armories. Complete information can be obtained by written request or personal call on the ordnance district office nearest you—its address is on file in your nearest Department of Commerce field office.

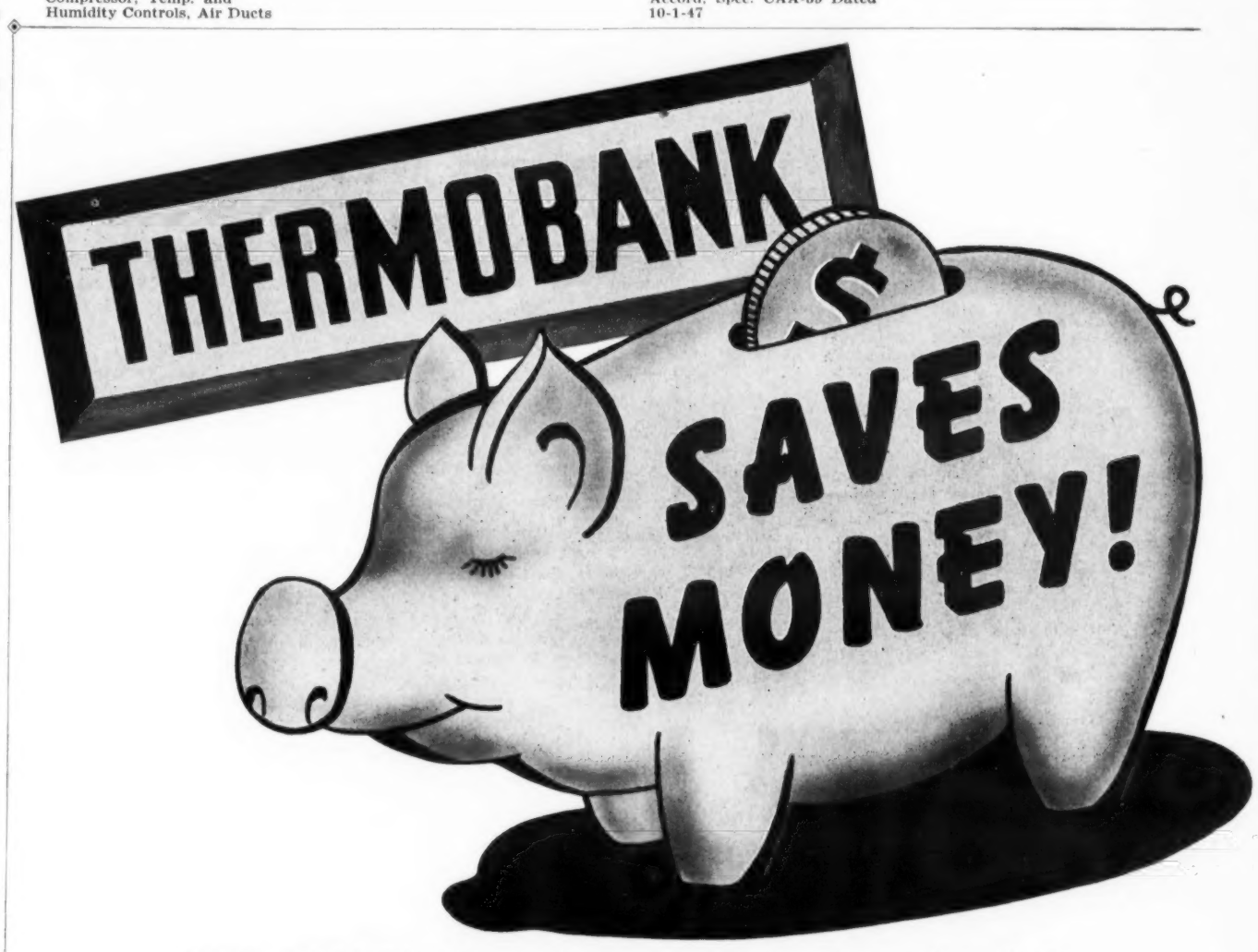
| Description | Quantity | Invitation No. | Opening Date |
|---|---|---|---|
| **Navy Purchasing Office, 111 East 16th St., New York City** | | | |
| Fans, Desk Type, Electric | 25 ea | 7479 | 16 Nov 50 |
| Furnace, Electric | 1 ea | 7486 | 21 Nov 50 |
| Desiccant, Activated | 880,000 oz | 7466 | 21 Nov 50 |
| **Aviation Supply Depot, 700 Robbins Ave., Philadelphia, Pa.** | | | |
| Tubing Sealed Seamless Types Copper Type Copper Nickel Alloy Type To Be Used For Plumbing and Heating | 1,450 ft. | C 52307 | 8 Nov 50 |
| Tubing Refrigeration Type K With Sealed Ends Spec WWT 799 A and Spec 44 T 40 B | 50 coils | | |
| Detector Leak Halide "Freon" Refrigerant Acetylene Outfit To Be Equal To Linde Air Prod. Co. Parts No. | 140 ea | H 51992 | 10 Nov 50 |
| **Aviation Supply Depot, 700 Robbins Avenue, Philadelphia, Pa.** | | | |
| Food Mixer Motor 2 Horse Power Ball Transmission Automobile Type equal to Hobart Mfg. Co. Model No. 800 | 1 ea | H 11597 | 14 Nov 50 |
| **Supply Office, Naval Gun Factory, Washington, D. C., Attn.: Procurement Branch** | | | |
| Couplings, Flared Tube DWG 12 Z 350 PC Q | 1,500 ea | 9536/296 ORD | 14 Nov 50 |
| **Signal Corps Procurement Agency, 2800 S. 20th St., Philadelphia 45, Pa.** | | | |
| Thermometers, Various Commercial Types, Specs and/or DWGS not Avail. | Various | 568-04 | 29 Nov 50 |
| Calculator and Temperature Evaluator ML-395/FMQ-1- Per SIGC DWG SC-D-20222-B | 9,940 ea | 577-04 | 21 Nov 50 |
| **U. S. Naval Air Station, New Orleans, La.** | | | |
| Furnish, Install 5 T Elec. Self-Contained Air Cond. Unit, 60 AMP, 230V, 3P, with Heating Coils, Cooling Coils, Filters, Fan, Compressor, Temp. and Humidity Controls, Air Ducts | One Unit | NOY-23164 | 15 Nov 50 |
| **Commanding Officer, Naval Supply Depot, Mechanicsburg, Pa. Attn.: Code 778B** | | | |
| Thermometer, Distant Reading | 10 ea | 764275 | 28 Nov 50 |
| Thermometer, Dial | 825 ea | 764275 | 28 Nov 50 |
| Thermometer, Industrial | 1,769 ea | 764275 | 28 Nov 50 |
| Thermometer, Etched Stem | 20 ea | 764275 | 28 Nov 50 |
| Thermometer, Dial, Distant Reading | 105 ea | 764275 | 28 Nov 50 |
| Thermometer and Altitude Gauge | 5 ea | 764275 | 28 Nov 50 |

### GENERAL SERVICE ADMINISTRATION

| Description | Quantity | Reference No. | App. Bid Date |
|---|---|---|---|
| **Chief, Administrative Services Section, Public Buildings Service, General Services Administration, 902 U. S. Custom House and Appraisers Stores, Philadelphia 6, Pa.** | | | |
| Exhaust Fans | 3 ea | 1283 | 11-7-50 |
| Hot Water Storage Tank | 3 ea | 1284 | 11-8-50 |
| **Chief, Supply Section, Public Buildings Service, General Services Administration, Washington 25, D. C.** | | | |
| Vacuum Pump for Refrigeration System, 110-V | 1 ea | 429 | 11-10-50 |
| Fan, Centrifugal, 5 H. P., 1800 FPM | 1 ea | 436 | 11-8-50 |
| Fan, Propeller Type, Two Speed 900 CFM at High Speed | 1 ea | 436 | 11-8-50 |
| **Chief, Supply Section, Public Buildings Service, General Services Administration, Washington 25, D. C.** | | | |
| GE Underfloor Duct Fittings, 2 Items | 100 pcs | 453 | 11-9-50 |
| **Chief, Purchase Division, Federal Supply Service, General Services Administration, Denver, Colo.** | | | |
| Dishwashing Machine | 1 ea | 1474 | 11-3-50 |
| **Chief, Administrative Services Section, Public Building Service, General Services Administration, 902 U. S. Custom House and Appraisers Stores, Philadelphia 6, Pa.** | | | |
| Furnishing the Materials and Performing the Work for Ventilation, 3rd Floor Transfer, Engraving Room, U. S. Mint, Philadelphia, Pa. | | | 11-16-50 |
| **Chief, Purchase Branch, Federal Supply Service, General Services Administration, Rm. 7120, 7th and D Sts., S. W., Washington 25, D. C.** | | | |
| Refrigerator, Gas | 1 ea | 8E-94229-R | 11-16-50 |
| Refrigerator, Electric | 47 ea | 8E-94229-R | 11-16-50 |
| Cabinet, Low Temperature Storage | 6 ea | 8E-94229-R | 11-16-50 |

### U. S. DEPARTMENT OF COMMERCE

| Description | Quantity | Reference No. | App. Bid Date |
|---|---|---|---|
| Fan, Axial Flow Type, 20 In. Size Fan, Max. Dim. Face of Mounting to Rear of Motor 15½", 3200 CFM Min. at ¼ In., S.P., with Screen, Accord. Spec. CAA-59 Dated 10-1-47 | 50 to 150 ea | 5436 | 15 Nov 50 |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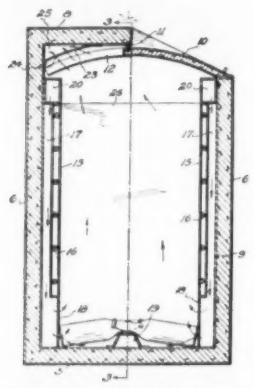
# PATENTS

## Week of May 23 (Continued)

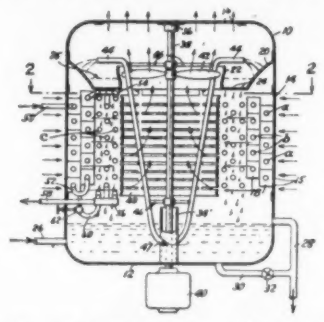
**2,508,768. REFRIGERATOR COOLER FOR BOTTLED BEVERAGES. Clarence F. Munshower, Columbus, Ohio, assignor to Coltemp Corp., Columbus, Ohio, a corporation of Ohio. Application Oct. 18, 1947, Serial No. 780,699. 3 Claims. (Cl. 62—102.)**



1. A cooler for bottled beverages, comprising a cabinet formed with a horizontal bottom, vertical front, back and end walls and a top having an opening, movable closure panels for the opening in said top; a pair of vertically arranged and transversely spaced refrigerating panels mounted within and extending longitudinally of the cabinet, said panels being disposed in spaced relation to the front and back walls of the cabinet and forming therewith a pair of vertically arranged air passages, the relative transverse spacing of said refrigerating panels producing within said cabinet a storage compartment for the reception of a plurality of beverage-holding bottles, said panels being formed contiguous to their lower regions with openings providing communication between said air passages and said storage compartment, a longitudinally extending forced air duct disposed above each of said panels in said cabinet and arranged adjacent to said front and back walls above said air passages for air flow communication therewith, motor-driven air-displacement means communicating with said ducts for forcing air longitudinally therethrough and downwardly through said air passages and thence upwardly through said storage cabinet around bottles positioned therein, and a return air duct disposed below the top of said cabinet in the upper portion thereof and communicating with said air-displacement means at the air intake side thereof for the return of air to said means for recirculation through the cabinet.

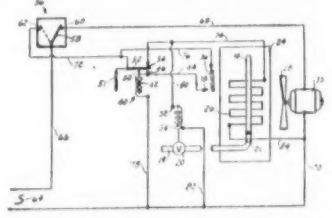
**2,509,031. APPARATUS FOR COOLING FLUIDS. Eldon Bockmeyer, Philadelphia, Pa. Application March 1, 1946, Serial No. 651,034. 7 Claims. (Cl. 257—37.)**

1. An apparatus for cooling liquids comprising a casing having a removable head, a water receiving receptacle in the lower end of the casing, an annular water trough in the head having a perforated bottom, aplurality of annular vapor cooled coils below the bottom of the trough, a plurality of air cooled coils connected to each other and to the vapor cooled coils concentric with the vapor cooled coils and in the same horizontal plane, an



inlet for the liquid to be cooled to one end of the air cooled coils, an outlet for the cooled liquid from one end of the vapor cooled coils, a vertical air flue within the coils substantially the height of the coils, there being slots through the wall of the flue for the passage of air between the flue and the surrounding coils, a shaft rotatably mounted concentrically of the coils, means for rotating the shaft, tubular means for delivering water from the water receptacle to the trough when th eshaft is rotated, the casing having air inlet and outlet openings, and means including a fan connected to the shaft for drawing air through the air inlet, passing it radially over the air cooled coils then over the vapor cooled coils to the air outlet through the flue at right angles to the flow of air over the coils.

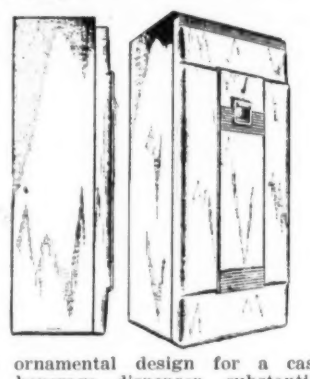
**2,509,099. SYSTEM FOR CONTROLLING THE OPERATION OF REFRIGERATION UNITS. Frederick M. Jones, Minneapolis, Minn., assignor to The U. S. Thermo Control Co., Minneapolis, Minn.**



1. In combination with a cooling unit upon the exterior surface of which a progressive frost accumulation occurs, means for defrosting said cooling unit comprising, a source of heat, a medium for transferring energy from said source of heat, a conductor for transferring said medium from the source of heat to the cooling unit, flow control means cooperable with said conductor for regulating the flow of said medium through said conductor, an electric operator for actuating said flow control means to initiate the flow of said medium to said cooling unit, means for controlling the operation of said electric operator, comprising a circuit including said electric operator, said circuit being adapted for connection to a source of power, a two-position switch in said circuit which when moved to one of its positions effects energization of said electric operator, and another switch in said circuit, said latter switch having a temperature responsive portion positioned in heat transfer relationship with said cooling unit and responsive to a rise in temperature of said cooling unit, said latter switch being effective to de-energize said electric operator after the frost accumulation is removed from said cooling unit to thereby terminate the flow of said medium through said conductor.

### DESIGNS

**158,673. CASING FOR A BEVERAGE DISPENSER. Raoul A. Lambert, Springfield, Mass., assignor to Westinghouse Electric Corp.**



The ornamental design for a casing for a beverage dispenser, substantially as shown and described.

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# 'Reflective Radiant Conditioning'

## Experimental Setup Seeks Year-Round Comfort by Controlling Body Heat Loss

CINCINNATI—Admittedly experimental, a unique theory for year-round heating and cooling is being field tested under actual use in the new home of Dr. Clarence A. Mills, professor of experimental medicine at the University of Cincinnati and recognized authority on climate as related to the human being.

"Reflective radiant conditioning," the term used by Dr. Mills to describe his radical approach to the problem of providing indoor comfort, is based on the fundamental principle of transferring heat to or from the human body by radiation only instead of heating or cooling air surrounding the individual.

Thus, if the theory works, the individual in Dr. Mills' new home could be comfortably warm in winter even though the indoor air temperature were only 50°, or comfortably cool in summer despite indoor temperatures of 90° F., thanks to a heating and refrigeration system that provides a means of transferring radiant heat to or from the individual with the aid of a heat-reflecting surface on interior walls, ceilings, and floors.

Dr. Mills is convinced that the idea works.

Recently he and Mrs. Mills threw open their home to the press, architects, engineers, and contractors after occupying it since April 1, so that a first-hand inspection of this development could be made. Scores of interested engineers visited the home, firing many questions at Dr. Mills and representatives from such companies as Frigidaire Div., General Motors Corp. (which supplied the cooling system as well as all appliances for the kitchen and laundry), and Reynolds Metals (supplier of aluminum foil wall covering).

### MILLS TESTS MAY WIDEN HEAT PUMP APPLICATION

Dr. Mills pointed out that "this present field-testing of 'reflective radiant conditioning' is not a mere short-term demonstration that the idea is a workable one. Rather it marks the beginning of a long-term study into many aspects of housing—simplification of building requirements, reduction in heating and cooling loads which may open the way for economical use of the heat-pump principle, minimizing of differences between indoor and outdoor atmospheres, redesigning household furnishings (draperies, furniture, floor coverings, etc.) and clothing in keeping with 'reflective radiant condition.'

"Study must now be made of the whole host of problems raised by this control of human comfort through radiant instead of air channels."

Stripped to its barest essentials, the cooling and heating system employed in the Mills residence consists of "Freon-12" coils located in a trough contained in the cove which encircles each room 13 in. below the ceiling and straight Calrod heating elements in the cove above the refrigerant coils.

In summer operation radiant heat travels to the coils from the body, while in winter heat is supplied radiantly to the body from the heating units. The reflective aluminum wall covering helps in directing this heat flow.

But before presenting a detailed description of this phase of the experiment, it might be well to review the whole background and the setting, as outlined by Dr. Mills.

### Part 1

*Editor's Note:* "Reflection Point," the unusual home of Dr. Clarence Mills in Cincinnati, represents a radical approach to the problem of providing year-round comfort for human beings, and so is described in detail in the accompanying article which will be concluded in next week's issue.

It should be remembered, however, that this is a test installation, and that the engineering and design principles involved must be carefully applied. Much remains to be studied and learned, and although this type of system may ultimately provide the answer to many problems in air conditioning it is still strictly in the experimental stage. So don't throw away your air conditioning manual, give up your franchise, and unload your stock of conventional air conditioning equipment.

But you will find Dr. Mills' installation extremely interesting, and it may give you food for thought.

Named "Reflection Point," the experimental residence represents an investment reportedly in the neighborhood of $70,000. It's built on Fairview promontory 300 ft. above the valley overlooking downtown Cincinnati, the industrialized Mill Creek valley, the Ohio river, and railroad yards. It faces south and has a wide sun exposure, but it's likewise fully exposed to the winds.

The site was for many years the upper terminus of a streetcar incline, and until a year ago served as a streetcar turn-around. Substitution of buses released the property.

"The house proper," explains Dr. Mills, "sits on a reinforced concrete slab and is of wooden construction with vertical redwood siding. Of conservative modern type, it has a flat, overhanging roof and turned up cornice with rain-water drainage through two 4-in. copper pipes in interior walls. Two bedrooms, two tile baths, study, living-dining room, kitchen-service room, halls, and a ¾-enclosed porch constitute the living quarters."

Basement is provided under one portion of the house for a two-car garage and three rooms for storage and service equipment, including the refrigeration unit, electrostatic air filter, electric water heater, and a battery of watt-hour meters and other instruments for recording and studying data on the conditioning installation.

### WHY INSULATION OMITTED

"Insulation was intentionally omitted in wall, ceiling, and floor construction," said Dr. Mills, explaining that its omission "does not mean that we don't think it might be necessary, but we want to find out just how much might be needed. It will be much easier to add insulation than to remove it.

"Side walls consist of ½-in. gypsum wall board on the inside of the studding and a layer of plywood for rigidity and vertical redwood siding on the outside. The roof consists of 7 by 12-in. built-up beams spaced every 8 ft. to carry the 2 by 6-in. tongued and grooved planking and built-up surface roofing. Reynolds Metals foil covers the entire roof surface. The concrete slab is heavily reinforced over the basement areas, but otherwise lies directly over gravel-covered rock earth and contains no insulating material.

"Embossed and tinted foil wall coverings line the side walls and ceilings throughout the house. An aluminum lined cove or trough with up-turned edge extends outward from each side wall 13 in. below the ceiling. In this are located the 'Freon' cooling coils, so placed that no part of them extends above the level of the up-turned edge of the cove. A smaller cove up near the ceiling carries heating elements. Halls and baths have no coves or provision for summer cooling but are heated directly by radiant elements mounted near the ceiling.

"Heat loss downward into the concrete slab," continues Dr. Mills, "is minimized by placing aluminum foil directly on the concrete in the living-dining room (facing upwards), then a waffle-design foam rubber mat to give point contacts, and finally the carpet.

"Nylon wall-to-wall carpeting is used in the living-dining room, rear hall, study, and master bedroom, and a woven fiber rug on the ¾-enclosed porch. Cork tile covers bedrooms, rear hall, and study, quarry tile the other halls and porch, and arlon tile, the kitchen.

"The ceiling of the entire central hall consists of corrugated aluminum sheets perforated as for acoustic treatment. Cleansed air from the electrostatic air filter in the basement is brought up through wall ducts and pours down into the hall through these myriads of small openings. . . . This is a two-purpose air system, serving (1) for ventilation, and (2) for maintaining an outward air current through all cracks or open apertures—thus preventing the entrance of outside dust or dirt."

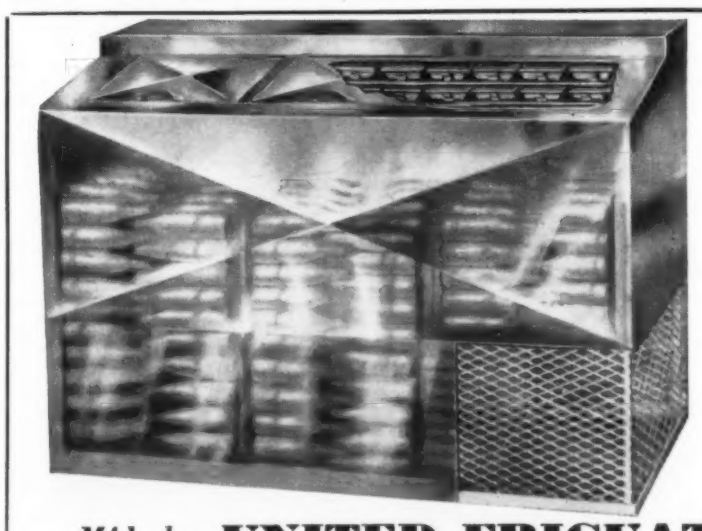
At this point it would be well to emphasize that the outdoor air which passes through this filter is not otherwise treated. It is neither heated in winter nor cooled in summer in line with Dr. Mills' "reflective radiant conditioning" theory which does not depend on heating or cooling the air for comfort. A two-speed motor permits either 300 c.f.m. or 1,000 c.f.m. to be brought in through the filter.

### TESTS TURNED UP 'SURPRISE' IN USE OF PRECIPITATOR

What he describes as an "extremely interesting phenomenon" in connection with the electrostatic precipitator was cited by Dr. Mills before a joint meeting of the local chapters of the American Society of Refrigerating Engineers and the American Society of Heating & Ventilating Engineers after they had toured the house.

"For a while this summer," Dr.

*(Continued on next page)*

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"A CASE OF COOL JUDGMENT"

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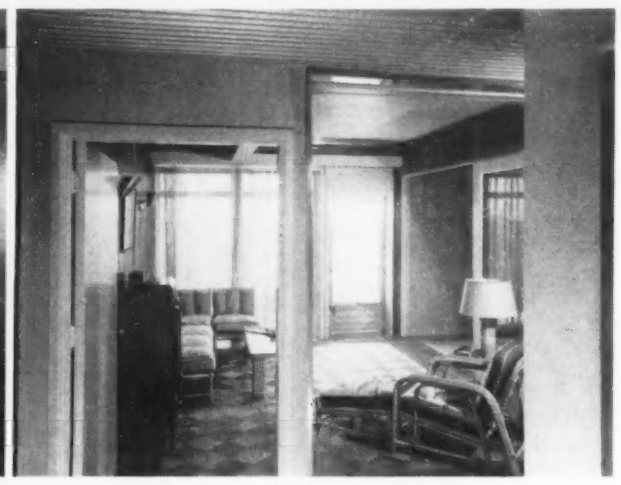
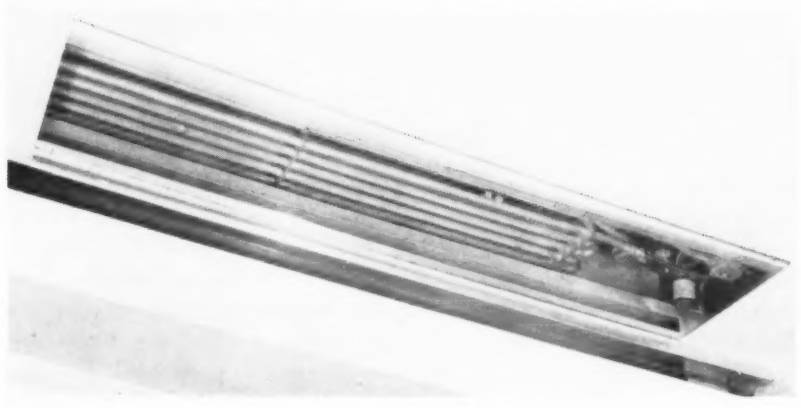
IN DINING ROOM of the Dr. Mills experimental home are shown the coves near ceiling for heating and cooling. Note also the pattern of reflective foil on wall at right.



IN HALL perforated, corrugated ceiling acts as plenum chamber through which outside air that has been filtered but not heated or cooled is forced into house.

ALUMINUM FOIL, face up, under rugs and carpets of the experimental house helps cut heat loss through floor. Foam rubber mat over foil has waffle design to provide point contacts.



MIRROR has been attached to ceiling over one of the coves to show position of Frigidaire cooling coils employed in new reflective radiant cooling system. Bottom of the cove is comprised of an aluminum trough with an upturned edge. This retards spillage of cold air into room. Coils such as these are cooled by a 3-hp. reciprocating type compressor in basement room.

* * *

# Experimental Home Has Heat-Reflective Walls, Ceilings

*(Continued from preceding page)*

Mills, said, "the precipitator was not in operation. We continued to operate the fan, however, bringing in fresh air and filtering it through the air-mats in the filter. But the air seemed stale. As soon as the precipitator was brought back into operation the staleness was noticed no longer.

"Whether the precipitator freshens the air by ionization or ozone I don't know, and American Air Filter makes no such claims, but the matter is worth, and will receive, intensive study."

Continuing with Dr. Mills' description of the house (which is basic for a full understanding of this unusual conditioning system), "the main entrance is up from the driveway, midway in the north side of the house. Entrance hall faces on into the porch through a plate-glass wall, thus dividing the house into its two parts.

### ONE PART USED IN DAYTIME, OTHER ONLY AT NIGHT

"To the right is the day-living section—the living-dining room, and the kitchen-service room. To the left are the bedrooms, bathrooms, and study. This division of the house into two parts, one for daytime use and the other for night, was a primary point in its design. A second point was utilization of the magnificent views afforded by the site."

The kitchen, fully equipped by Frigidaire, includes a 9-cu. ft. deluxe refrigerator with full-width freezer, a 40-in electric range, cabinet sink, and base and wall cabinets, while in the adjoining service section there is an automatic washer, electric ironer, and electric clothes drier. The drier, incidentally, was specially fitted to exhaust directly outdoors.

Besides these appliances there's an 18-cu. ft. Frigidaire freezer in the basement (garage) with an 80-gal. electric water heater.

"The kitchen layout itself represents careful functional planning, with the work flow of foods under preparation being from refrigerator to work cabinets, to sink, to work cabinets, to electric range, to assembly and china cabinets near the door leading to dining room," Dr. Mills explains. "Floor space within the kitchen 'U' is adequate but free from the necessity of extra steps."

As for the exterior of the house, it has an overhanging roof which keeps out the hot summer sun but brings in its more slanting winter rays. "Eyebrows" made from the same corrugated and perforated aluminum sheets used as the ceiling in the central hall are mounted over the east and west windows to keep out all except early morning and later evening sun from those directions.

"The west wall of the house is carried on to the outer edge of the south roof-overhang so as to keep the hot summer mid-afternoon sun from creeping through the picture windows into the living room. A similar outward extension of the east porch wall shields the study windows from the afternoon sun. These extensions also act as wind-breaks for the concrete portion of the terrace next to the house."

### WHAT DR. MILLS HOPES TO FIND OUT

To better explain the reasons behind this unique house, Dr. Mills emphasizes that "the human body has no need to be heated—it itself generates heat from its own internal fires so long as life lasts. Our primary concern is proper control of the rate at which this inner heat is lost from the skin surfaces and air passages.

"If external losses are too rapid, we feel chilly; if too slow, our own internal heat piles up inside and makes us hot. The problem, therefore," he contends, "is to find the simplest and most economical method of balancing heat loss against inner production.

"Ordinarily we lose heat by radiation, conduction-convection, and water evaporation. The last of these three is largely an emergency measure brought into play when we are uncomfortably warm; man usually seeks to avoid sweating by reducing hot-weather mental and physical activity whenever possible.

"The conduction-convection avenue of heat loss is the one around which air conditioning has been built; here air temperatures are of paramount importance. Radiant heat loss from the body—the third avenue—is possible only when surrounding materials have surface temperature below those of the skin.

"Surface radiation from most materials is proportional to surface temperatures, hence bodies exposed to one another are continually exchanging radiant heat even when they finally come into balance. This exchange," Dr. Mills says, "goes on quite independently of air temperatures or humidity. The net flow, however, is always from warmer to cooler surfaces. The sun's heat can thus warm you—even burn you—in zero air, while cold walls can chill you with hot air on all sides."

### EXPERIMENTS BEGAN BACK IN LATE THIRTIES

Early experiments with radiant heating and cooling through walls were cited by Dr. Mills, who pointed out that the problem of condensation on a cold wall was never licked. He said that in the late 30's laboratory tests with cold and hot plates and reflective surfaces convinced him that "reflective radiant conditioning" was quite feasible, and he presented his findings before ASHVE in 1938.

"After waiting over a decade for others to act, we finally decided to field-test the idea ourselves, putting up for this purpose a specially designed residence in which we would live as test subjects."

In describing the refrigerating and heating components of this installation, Dr. Mills was assisted during the formal opening by four of the Frigidaire engineers who had participated in the design and installation to meet Dr. Mills' specifications. They included S. M. Schweller, chief engineer; J. L. Gibson, assistant chief engineer; C. D. Graham and T. S. Caldwell, air conditioning engineers.

They explained that the "Freon-12" cooling system is connected to a conventional 2-hp. combination air and water-cooled compressor with usual operating pressures of 175 p.s.i.g. head and 30 p.s.i.g. back pressure. A large condenser-receiver is employed so the system can be pumped down completely, if necessary.

Total lowside for the house consists of approximately 1,400 cu. ft. of ¾-in. copper tubing without fins which lays in the aluminum troughs in the coves. The tubing is connected in a continuous circuit in each room, there being from five to nine rows. The living room circuit, for example, has slightly over 300 ft. of this tubing.

The amount of tubing used is based on load calculations made by Dr. Mills himself. These are 400 B.t.u. per person plus a 25% safety factor. The occupancy for each room was figured as follows: living room, 12; dining room, eight; study, five; kitchen, three; each bedroom, three.

("Why I figured on three people in the bedroom I don't know," Dr. Mills commented.)

### CONTROL SETUP FOR COOLING CIRCUIT

The cooling circuit in each room is controlled independently and manually by means of a solenoid in the liquid line which is turned on or off by means of a wall switch. (Another wall switch actuates the heating for each room.) A thermostatic expansion valve is provided in the coil for each room.

In the suction line just ahead of the compressor is an E.R.V. valve (evaporator pressure regulating valve) which serves to hold the coil suction pressure at any predetermined point regardless of the load. Such an arrangement is necessary because the load will vary widely depending on whether the coils are operating in just one, a few, or all the rooms.

Primary control of the refrigeration system is a centrally located room thermostat normally set to cut in at 78° F. Thus if the room air temperature is above 78° F. the refrigerating system will be operative when a wall switch is thrown to open the solenoid valve in the system of a particular room. If the air temperature is below 78° F. no cooling will be provided even though the solenoid were thrown open.

The system is so set now to maintain a coil temperature close to 35° F.

Whether this type of manual control will be the ultimate answer, Dr. Mills won't predict, since a radiation-sensitive control still remains to be developed. He does emphasize though that "what we are seeking—and apparently now have—is immediately available heating or cooling whenever a person enters a room and flips the switch.

"If heating is needed, the proper heating power is at once thrown into the room; while in summer heat the switch brings cooling power to the cove coils. Once we have familiarized ourselves with the occupants' heating and cooling needs in the various rooms, we can simplify the control system."

*(To Be Continued)*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If you are experienced in this type of work and are qualified to direct the activities of a group of engineers on this work, please call or write C. H. Neiman, Jr., York-Shipley, Inc., York, Pennsylvania, at once. This is an unusual opportunity for the proper man.



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RANCO REFRIGERATION CONTROLS GIVING TROUBLE-FREE SERVICE THE WORLD OVER

Servicemen everywhere rely on Ranco when making either domestic or commercial refrigeration replacements—because they spend less time on the job, eliminate call-backs, make more money! Moreover, Ranco offers a specific control for every type replacement. Save shopping all over town. Visit your Ranco wholesaler today.

Ranco Inc.
COLUMBUS 1, OHIO
WORLD'S LARGEST MANUFACTURERS OF REFRIGERATION CONTROLS

NEW RANCO REPLACEMENT REFERENCE NO. 1244
... Lists all refrigeration manufacturers, trade names, and the Ranco Replacement Control code number. Copies available only through Ranco wholesalers.


# CLASSIFIED ADVERTISING

RATES for "Positions Wanted" $5.00 per insertion. Limit 50 words. 10¢ per word over 50.

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ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count. Please send payment with order.

### POSITIONS WANTED

EXECUTIVE ENGINEER, age 40, diversified experience in the engineering and manufacturing of refrigerators, freezers, washing machines, ironers, and other appliances. Desires position as works manager, chief engineer, or staff assistant. Present earnings—5 figures. BOX 3598, Air Conditioning & Refrigeration News.

INSTALLATION AND serviceman. Refrigeration, air conditioning, heating and piping. Twenty years experience. Can supervise or install any size of type job. Thorough knowledge of controls and electrical circuits. Diversified experience in all lines. Desires supervisory or sales connection with live wire concern. Best references. BOX 3602, Air Conditioning & Refrigeration News.

### POSITIONS AVAILABLE

WANTED: EXPERIENCED chief engineer with imagination, to improve and develop commercial line of dry beverage coolers, low temperature open self service display cases, coin operated beverage dispensers. Brand new plant. Well equipped with modern machines and equipment. Expansion program. All replies held confidential. Wonderful opportunity. AMERICAN REFRIGERATION CORPORATION, 1025 East Excelsior Avenue, Hopkins, Minnesota.

REFRIGERATION ENGINEER: Nationally known manufacturer located in Minnesota has opening for experienced engineer with ability to handle development and design of refrigeration systems for refrigerators and home freezers. Our employees know of this ad. BOX 3596, Air Conditioning & Refrigeration News.

REFRIGERATION ENGINEER. Graduate engineer for the development and design of heating and cooling products. Applicant must be thoroughly grounded in the solution of heat transfer problems. Location in Michigan. Excellent opportunity for man able to assume responsibility. State age, experience, and salary expected in first letter. BOX 3601, Air Conditioning & Refrigeration News.

### EQUIPMENT WANTED

WANTED: ROLL-FORMING machine for refrigerator shells. Maximum roll width: 27 inches. State if rolls included, condition, make, and price. BOX 3599, Air Conditioning & Refrigeration News.

### EQUIPMENT FOR SALE

WHOLESALE SEALED unit rebuilding. We will rebuild and convert your unit to "Freon-12." One year guarantee. Write for price list and shipping instructions. ADVANCE REFRIGERATION COMPANY, 829 East McNichols Road, Detroit 3, Mich.

REFRIGERATOR DOORS. 3'6" by 6'6" double batten auto close doors complete with removable track heads for 7'2" track. 1½" corkboard insulation. Brand new. $95 each. Freight prepaid in U.S. Door height may be altered. We can convert the doors to accommodate anything up to an 11 ft. 2 in. track at an additional cost of $15.00. BIMEL CO., Cincinnati, Ohio.

PROMINENT BRAND condensing units; sealed ¼-HP model L2M Servel @ $52; open type ¼-HP model 025 Norge with control @ $57. Write or wire NEW YORK REFRIGERATION, 35 East Fourth Street, New York 3, N. Y.

LARGE QUANTITY of surplus units, Tecumseh "F-12", ¼ H.P. Open type, complete less controls, in lots of 10 or more—$20.00 ea. Write or wire MAC SCHOENBACHER, 4614 S. Wentworth Ave., Chicago, Ill.

### BUSINESS OPPORTUNITIES

FOR SALE—Because of ill health will sell for inventory one of the largest store fixture and appliance businesses in Middle West. Located in Indiana. Our business last year grossed $260,000.00 and we paid net income tax of $18,837.63. This year of 1950 our gross will show $350,000.00 and we should show net profit $25,000.00 and be forced to pay tax on this figure. We operate six brand new trucks, have large four-story modern fireproof building under lease with 16,000 sq. ft. floor space. Modern elevator 18 ft. long lifts 8,000 lbs., makes the building the most ideal type for this kind of operation. We have the best lines to sell, the best sales and service organization in this part of the country. Will sell business for inventory only at invoice prices. If interested write BOX 3597, Air Conditioning & Refrigeration News.

EXCELLENT GOING business. Selling due to injury. Franchise, popular commercial refrigeration-equipment lines. Good service business and shop. Clean stock approximately $10,000. Southwest health center. Excellent statewide following. Years average 75 to 100 thousand. Good potential for increase. BOX 3603, Air Conditioning & Refrigeration News.

## Reg. W Letters--

*(Concluded from Page 1, Column 3)*

under his jurisdiction, and, of course, you know who our senators and representatives are.

Also, Mr. Roy T. Palmer, 927 N. Saginaw St., Flint, is local chairman for the National Federation of Small Business, who have offices in Washington and are working all the time in the interests of the small business men.

We feel the American way of living must be preserved, and any policy that works too great a hardship on small business should be modified, and the only way our representatives in Congress, Senators and bureaucrats in charge of the interpretation of the law will know, is to write them.

SILKWORTH DISTRIBUTING CO.

### Suggested Letter

Mr. Thomas B. McCabe, Chairman
Federal Reserve Board
Washington, D. C.

Dear Sir:

We feel your sudden and amazing increase in down payments on electrical appliances to 25% is hitting the whole appliance industry "below the belt" and will result in the closing up of many dealers. How long we can continue in business under this regulation is a question.

We are so-called "small business men," and depend on the sale of radios, refrigerators, ranges, and other merchandise in this class, to make our living. After all, the small business men are the back-bone of our National Economy.

We sell to average American citizens of moderate income, who cannot buy for cash, and budget their incomes on monthly basis. This 25% down payment, and 15 months payment time, makes it impossible for many to buy appliances.

This most certainly is an unfair discrimination against the electrical appliance industry as a whole, and we herewith enter our protest and ask that reconsideration be given and the down payment be put back to 15% and 18 months to pay.

Yours truly,

Copy of this letter is being sent to the President of the United States, Congressmen from our district and Senators.

## Help for Small Firms--

*(Concluded from Page 1, Column 4)*

of special assistant to the administrator for small business.

The office will have no direct power to award contracts or to assist in the financing of defense production, NPA officials pointed out. But, they explained, it can assist small business in obtaining defense contracts and in keeping them abreast of increasing defense needs.

The office will be made up of four divisions, in addition to the Office of the Director. Division titles and functions were announced as follows:

"1. The Materials and Equipment Assistance Division will be responsible for assisting, so far as possible, in securing equipment and materials necessary for small manufacturers and processors to participate fully in production of military supplies and essential civilian equipment. The division will not contact basic sources of supply, but will assist by referring special problems to the Industry Operations Bureau.

"2. The Procurement Assistance Division will have the responsibility of encouraging the fair distribution of Federal purchasing among small suppliers, and of keeping small businessmen informed of opportunities to do defense work.

"3. The Economic and Production Research Division's duties will include analyzing and publishing statistical information on the production capacity and economic status of small business, and making recommendations for any necessary remedial action by government.

"4. The Management Assistance Division will be responsible for calling to the attention of smaller firms information on industry-proven techniques which will increase their efficiency in such fields as accounting, production planning, purchase programming, etc."

Working in cooperation with the Department of Defense and the Federal Supply Service, the office already is issuing daily lists of pending government purchases, so that small manufacturers can obtain specifications from the appropriate agency, and bid on contracts in which they are interested.

These daily lists can be examined at some 4,500 places in the United States, including local Chambers of Commerce, many state industrial commission offices, and Department of Commerce field offices.

In addition, weekly lists of contract awards in excess of $25,000 each, are available through department field offices. These permit small manufacturers to keep in touch with possible sub-contracting opportunities.

(Data in both the daily and weekly lists which pertain to the air conditioning and refrigeration industry are published each week in the NEWS.)

Sawyer explained that the department's field offices will provide additional local guidance to businessmen with production problems related to the defense program so they will not have to make unnecessary trips to Washington.

"In most cases," he said, "the field offices will be able to answer specific questions regarding programs as they are put in effect. If any problems arise which are beyond the scope of the field offices, the directors of these offices can get answers quickly from Washington."

Orders for much of the Army's requirements in the Korean situation are going to small business, according to Secretary Frank Pace. He said small concerns received more than $33,000,000 worth of orders in July.

BRUNNER'S NEW LINE was viewed by the firm's district sales managers, home office executives, and engineering staff, shown here in front of the new engineering research and testing lab.

WHO'S WHO: W. J. Brinkerhoff, Jr., New York; Elmo L. Burlingame, Utica; A. D. Sullivan, chief engineer; J. B. Fleming, Jr., Baltimore; L. A. DeMarsh, Kansas City; R. D. Heitchue, engineering; S. W. Hanna, Cleveland; J. B. Fleming, Sr., Baltimore; A. L. Haldeman, Cleveland; T. J. Lyon, Chicago; G. W. Mathews, New York; A. W. Detwiler, Utica; H. Earl Close, advertising counsel; F. G. Slagel, Los Angeles; J. W. Thomas, general sales manager; P. A. Lovegren, factory manager; J. P. Junkin, Minneapolis; A. G. Zumbrun, Sr., president; E. H. Schiller, purchasing agent; W. M. Cashin, Boston; O. R. McDonald, advertising manager; F. E. Wilson, Philadelphia; M. Pacaro, Newark; S. R. Williamson, Dallas; F. M. Carryl, Florida; A. G. Zumbrun, Jr., sales; J. R. Reid, Des Moines; R. C. Smith, Dallas; H. S. Ormsbee, export; B. F. Welch, export; L. B. Menard, Cincinnati; A. W. Moran, export; and S. Benn, engineering.

## Brunner Expansion--

*(Concluded from Page 1, Column 3)*

"Many recent innovations in specialized assembly line procedures provide such flexibility that differeent models can be put onto the lines without delays. Shipping facilities have already been expanded to a point where loadings can be made to three freight cars and as many as four truck trailers simultaneously.

"Brunner's Newark, N. J. factories, where the self-contained 3, 5, 7½, and 10-hp. air conditioners are built, have also expanded their facilities. The 1950 sales of this product tripled that of 1949. Present 1951 bookings indicate not less than a 50% production increase over this year.

"With the showing at this meeting of many new refrigeration condensing units, this division now offers 60 different models as against 44 models offered the industry a year ago."

Following the president's report on the company's growth and expansion plans, J. W. Thomas, Brunner general sales manager, conducted a three-day sales meeting at which a score of new models were exhibited with many in actual operation.

## Appliance Production--

*(Concluded from Page 1, Column 5)*

Sources in the copper industry, faced with a tight supply and a high-priced grey market, were demanding that the NPA impose controls over the movement of scrap copper as well as that of metal produced from primary sources.

In the steel industry, one manufacturer has indicated that it is expecting steel prices to go up about $5 an ingot ton in the near future. Prices of tin are gradually rising to new record heights. Tin was $1.27 a pound for grade A metal in New York last week.

## 'DO' Orders Asked--

*(Concluded from Page 1, Column 5)*

'Detroit' are making every effort to build a case history for our portion of the refrigeration industry which when the time comes in the not too distant future, we can use as a basi for justifying the procurement of th materials we need and the essentia manpower we require.

"We feel that the importance o the refrigeration industry falls int two general classifications—first, th protection of the public's health i the preservation of foods, and secon and of course most important, hav ing immediately available to th armed forces the refrigeration equip ment which they require.

"Today we are receiving man orders from you, our wholesaler covering equipment which we ca identify as purchases for the arme forces and other governme agencies.

"You can be of tremendous assis ance to us, and eventually to you selves, on these orders for gover ment material by asking that DO (defense order) numbers be extend to you and you in turn extend the to us.

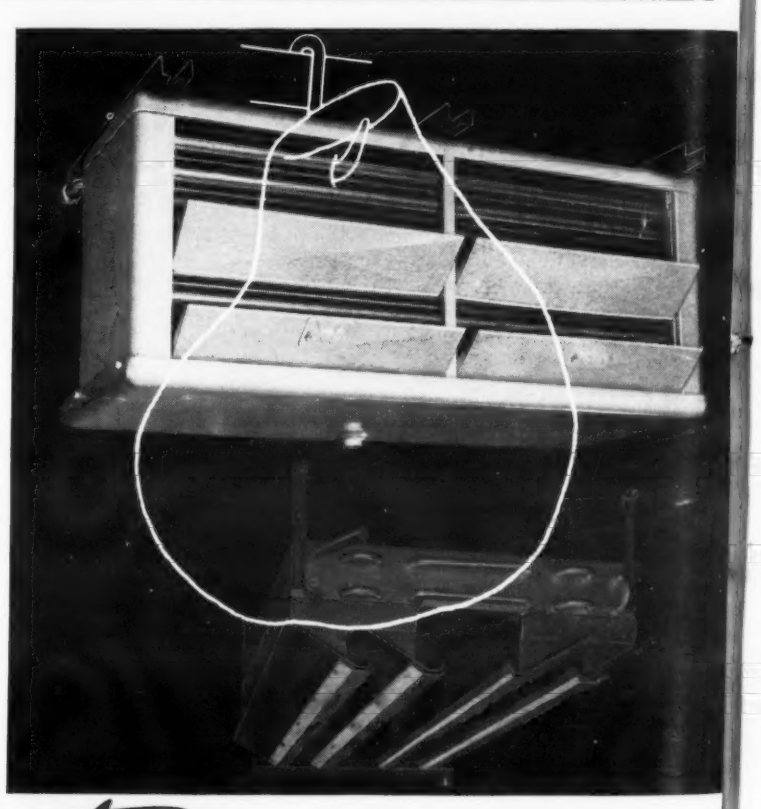
"We in turn will extend the numbers to our suppliers of raw m terials so that our stocks can be re plenished, thereby making it possible for us to satisfy your normal civilian requirements.

"May we again stress the vital importance to our industry of securing wherever possible and re-extending DO (defense order) numbers.

"Your cooperation will be sincerely appreciated."


SHOULDERS GET COLD

...more economically with



Finned Tubing by BUSH

Bush Finned Tubing is available in a wide range of sizes and fin spacings to meet every cooling need.

Walk-in boxes have come a long way from the cast iron brine pipes that were difficult to install, hard to clean and almost impossible to defrost. Modern, efficient Bush Finned Tubing in economical unit coolers or natural convection coils will give you a cold shoulder (or anything else you care to name) quicker, better and more economically than any other refrigerating equipment you can buy.

Buy the Best-and the Best is

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